

National HIV Surveillance System (NHSS)

Attachment 5.

HIV Surveillance Report

HIV SURVEILLANCE REPORT



Diagnoses of
HIV Infection in
the United States and
Dependent Areas, 2020



Centers for Disease
Control and Prevention
National Center for HIV,
Viral Hepatitis, STD, and
TB Prevention

The *HIV Surveillance Report* is published annually by the Division of HIV Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, Georgia.

Data are presented for diagnoses of HIV infection reported to CDC through December 2021.

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Guide to Acronyms and Initialisms

AGI	additional gender identity
AIDS	acquired immunodeficiency syndrome
CDC	Centers for Disease Control and Prevention
COVID-19	coronavirus disease 2019
EHE	Ending the HIV Epidemic in the U.S.
HHS	U.S. Department of Health and Human Services
HIV	human immunodeficiency virus
IDU	injection drug use
MMSC	male-to-male sexual contact
MSA	metropolitan statistical area
MSM	gay, bisexual, and other men who have sex with men
NHAS	National HIV/AIDS Strategy
NHSS	National HIV Surveillance System
NIR	no identified risk factor
OI	opportunistic illness
OMB	Office of Management and Budget
PrEP	preexposure prophylaxis
PWID	persons who inject drugs
SDOH	social determinants of health

Commentary



OVERVIEW

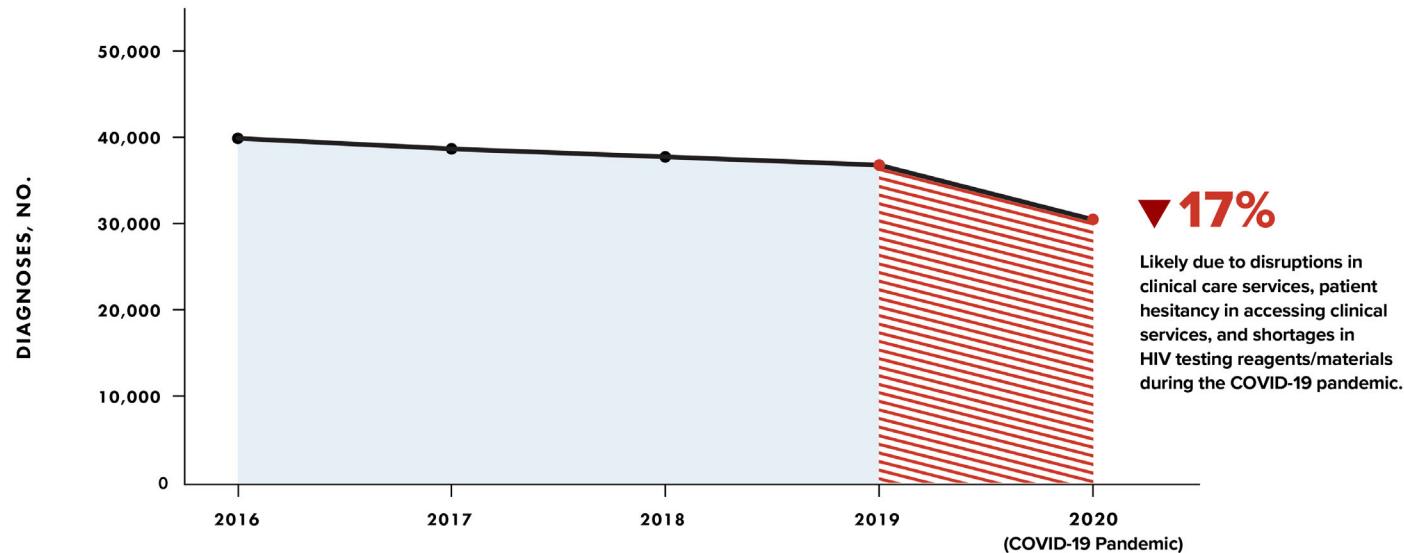
The Centers for Disease Control and Prevention (CDC) collects, analyzes, and disseminates surveillance data on HIV infection; these data are one of the nation's primary sources of information on HIV in the United States. The annual surveillance report, published by CDC, summarizes information about diagnosed HIV infection in the United States and dependent areas. HIV surveillance data are used by CDC and their public health partners in other federal agencies, health departments, nonprofit organizations, academic institutions, and the public to help focus prevention efforts; plan services; allocate resources; develop policy; detect, monitor, and intervene in HIV clusters; and monitor trends in HIV infection. Data in this report may be used to achieve national goals, such as those laid out in the National HIV/AIDS Strategy [1], Healthy People 2030 [2], and the Ending the HIV Epidemic in the U.S. (EHE) initiative [3].

IMPACT OF COVID-19 PANDEMIC

For this report, due to the impact of the COVID-19 pandemic on HIV testing in the United States during 2020, HIV diagnosis, death, and prevalence trends through 2020 are not discussed in the Commentary [4–7]. The overall number of HIV diagnoses in the United States in 2020 (30,403) was 17% lower than in 2019 (36,585) (Figure A, Table 1a). The steep reduction in diagnoses in 2020 is likely due to disruptions in clinical care services, patient hesitancy in accessing clinical services, and shortages in HIV testing reagents/materials, which causes concern regarding underdiagnosis [5–7]. Although state/local health departments developed innovative strategies for HIV-related testing (self-tests) and care services (telehealth) during the COVID-19 pandemic, these strategies did not make up for declines in laboratory reporting because self-test results are not routinely reported to health departments or CDC [8, 9]. In addition, telehealth visits might not have included orders for laboratory testing during periods of strict social distancing or patients may have been reluctant to complete testing.

As the COVID-19 pandemic is still ongoing, more time and data are needed to accurately assess COVID-19's impact on HIV in the United States. Data for the year 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. To emphasize the need for caution, tables presenting data for the year 2020 include "COVID-19 pandemic" in the title, and the 2020 column is highlighted in tables that provide multiple years of data. Assessment of trends in HIV diagnoses, deaths, and prevalence that include the year 2020 is discouraged. See COVID-19 suggested readings for additional information on COVID-19 and HIV.

Figure A. Diagnoses of HIV infection, 2016–2020—United States



Note. Diagnoses of HIV infection reported to CDC through December 2021. The annual number of HIV diagnoses in 2020 was 17% lower than 2019. The decline in 2020 was larger than the average yearly decline (2%–3%) observed during 2016–2019.

Numbers, percentages, and rates of diagnoses of HIV infection during 2020 are based on data from all 50 states, the District of Columbia, and 6 U.S. dependent areas (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the U.S. Virgin Islands). Data for stage 3 (AIDS) are available via [Atlas Plus](#) (for 1985 through the most recent year) and in the [Stage 3 \(AIDS\) classification slide set](#) (for cumulative data through the most recent year).

REPORT CHANGES

- Terminology for gender and transmission category labels were updated.
- Risk factor data for transgender and additional gender identity persons have been added. Data are presented using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. (See Technical Notes for more information on exposure category.)
- Tables that present data for transgender persons include additional gender identity (AGI); a new table presents diagnoses of HIV infection by exposure category and place of birth (Table 10b).
- National Profile and Special Focus Profile sections now include absolute and relative disparity measures.



National Profile

Data presented in this report are based on case data reported to CDC through December 31, 2021, and allows for a 12-month reporting delay and assessment of diagnosis, death, and prevalence for the year 2020. The statements in this section, unless otherwise indicated, are based on 12 or more cases. All rates are per 100,000 population.

When presenting rates by race/ethnicity, data are only provided for the United States (50 states and the District of Columbia) because denominator data are not available by race/ethnicity for all U.S. dependencies.

Please use caution when interpreting data for AGI persons, transgender men, American Indian/Alaska Native and Native Hawaiian/other Pacific Islander persons as many percentages and/or rates were based on small numbers.

For disparity measures, reference groups are based on the rate of the lowest group with more than five percent of cases.

Deaths of persons with diagnosed HIV infection may be due to any cause (i.e., may or may not be related to HIV infection). Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021.

Important note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

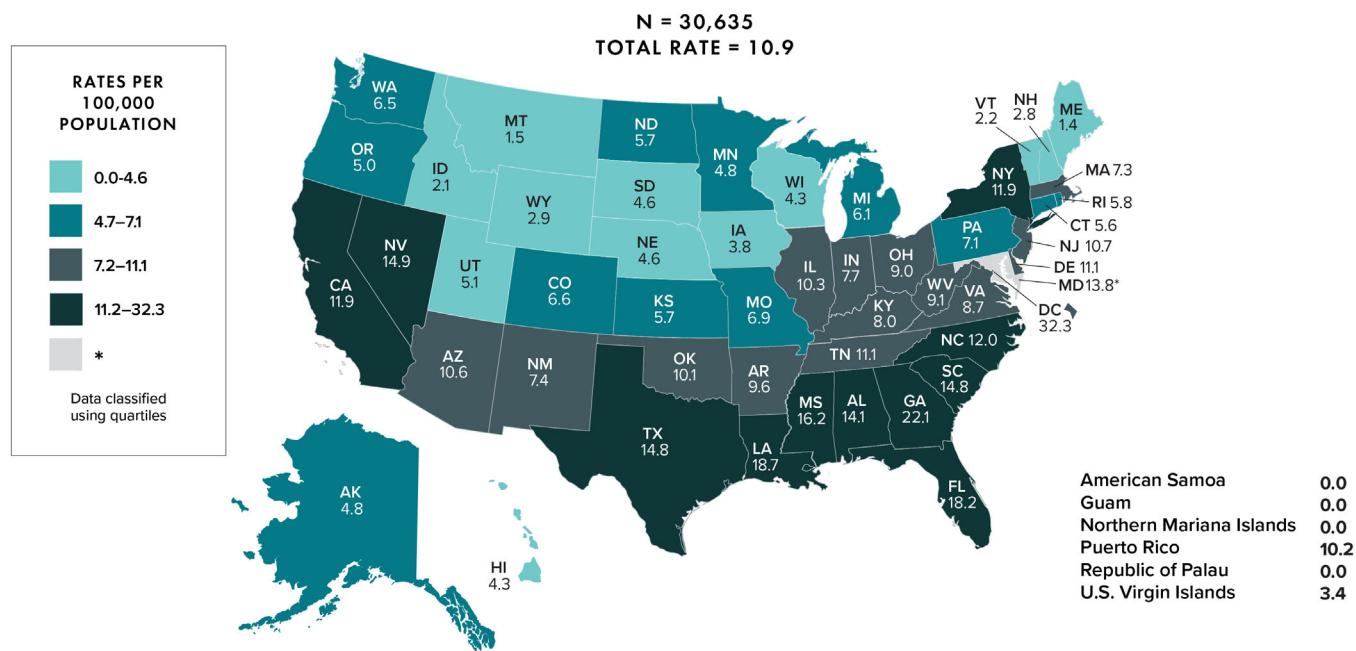
Please read all titles and footnotes carefully to ensure a complete understanding of the displayed data. See Technical Notes for information on definitions and data specifications.

DIAGNOSES

Diagnoses of HIV infection

In 2020, in the United States and 6 dependent areas, there were 30,692 diagnoses of HIV infection (persons aged ≥ 13 years: 30,635) (Tables 1b, 3b). The overall HIV diagnosis rate was 9.2 (persons aged ≥ 13 years: 10.9) (Figure 1).

Figure 1. Rates of diagnoses of HIV infection among persons aged ≥ 13 years, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

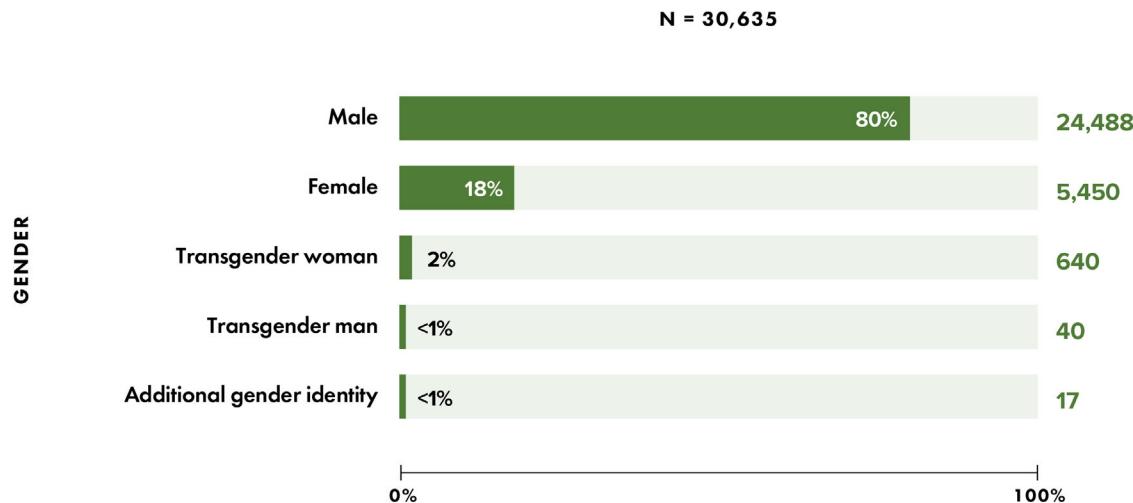


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Asterisk (*) indicates incomplete reporting.

HIV diagnosis percentages and/or rates among persons aged ≥ 13 years were as follows:

- **Gender** (Figure 2):
 - Male: 80%
 - Female: 18%
 - Transgender woman/girl: 2%
 - Transgender man/boy: <1%
 - AGI: <1%

Figure 2. Percentages of diagnoses of HIV infection among persons aged ≥13 years, by gender, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

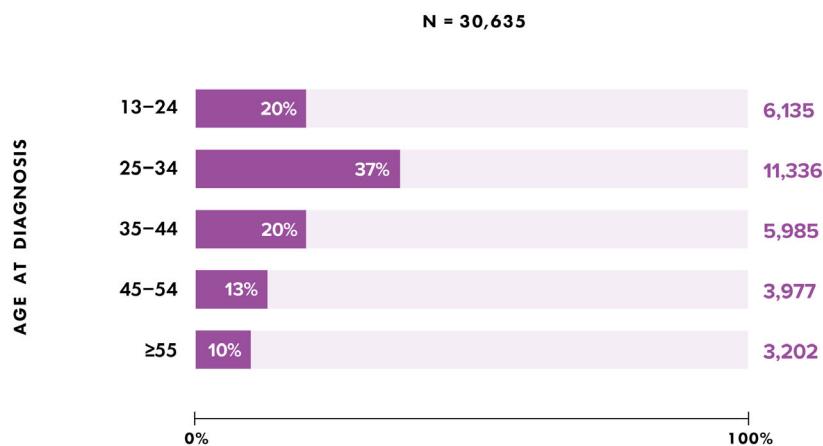


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

- **Age group** (Figure 3):
 - 13–24 years: 20%
 - 25–34 years: 37%
 - 35–44 years: 20%
 - 45–54 years: 13%
 - ≥ 55 years: 10%

For additional data by 5-year age groups, see Table 3b.

Figure 3. Percentages of diagnoses of HIV infection among persons aged ≥13 years, by age at diagnosis, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

- **Rates (U.S. only) (Figure 4):**
 - Highest: persons aged 25–34 years (24.4)
 - Lowest: persons aged ≥ 55 years (3.2)

For additional data by 5-year age groups, see Table 3a.

- ***Disparities by age group:***

- Absolute disparity (rate difference)—If persons aged 25–34 years had the same rate as persons aged ≥ 55 years, 21 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio)—Persons aged 25–34 years had a rate that was 7.6 times as high as persons aged ≥ 55 years.

- **Rates (U.S. only) (Figure 4):**

- Highest: Black/African American (37.4)
- Lowest: Asian (3.8)

- ***Disparities by race/ethnicity:***

- Absolute disparity (rate difference)—If Black/African American persons aged ≥ 13 years had the same rate as White persons aged ≥ 13 years (4.6), 33 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio)—Black/African American persons aged ≥ 13 years had a rate that was 8.1 times as high as White persons aged ≥ 13 years.

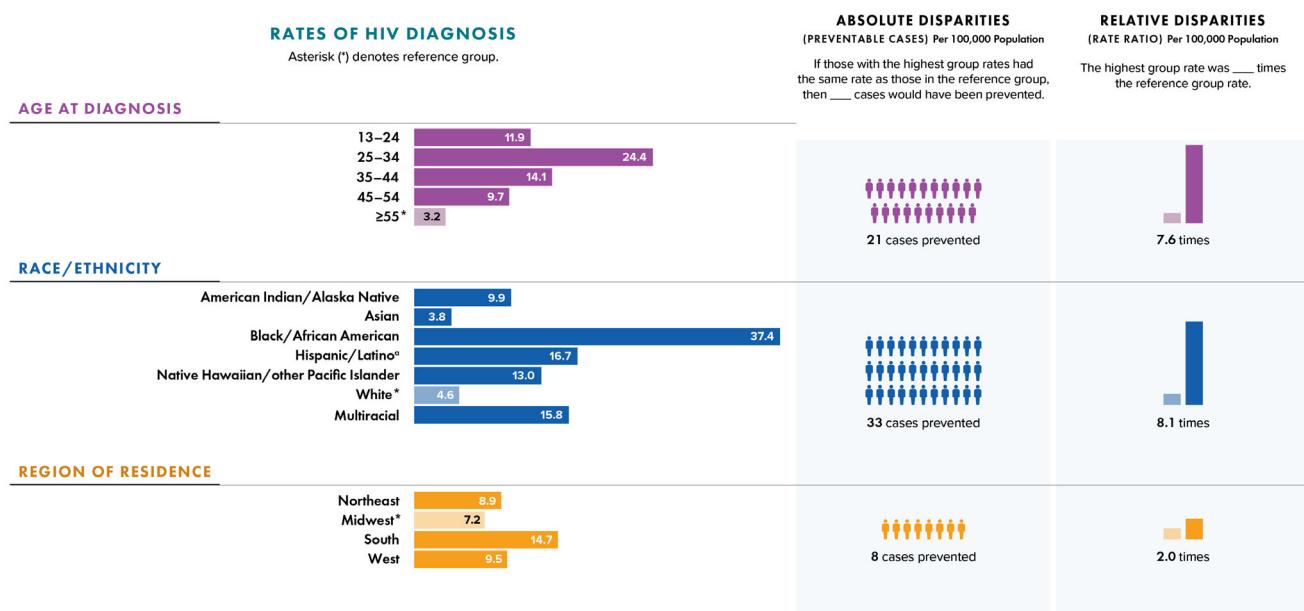
- **Rates (U.S. only) (Figure 4):**

- Highest: South (14.7)
- Lowest: Midwest (7.2)

- ***Disparities by region:***

- Absolute disparities (rate difference): if the South had the same rate as the Midwest, 8 cases per 100,000 population would have been prevented.
- Relative disparities (rate ratio): the South had a rate that was 2.0 times as high as the Midwest.

Figure 4. Rates and disparities of diagnoses of HIV infection among persons aged ≥ 13 years, by selected characteristics, 2020 (COVID-19 pandemic)—United States



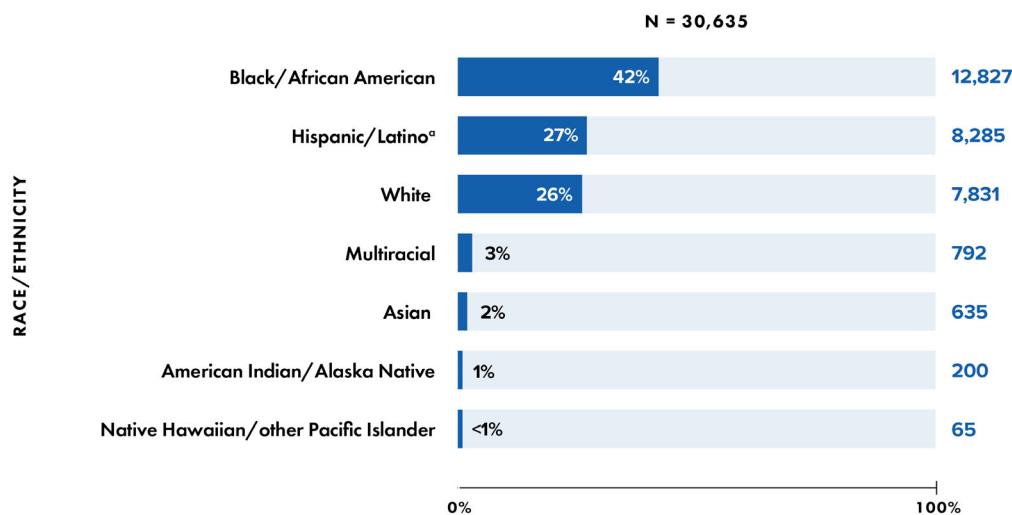
Note. Rates are per 100,000 population. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Absolute disparity measures the difference between rates in groups with the highest rates and a reference group ($\text{Rate}_{\text{highest group}} - \text{Rate}_{\text{reference group}}$). Relative disparity (rate ratio) measures the rates in groups with the highest rates divided by a reference group ($\text{Rate}_{\text{highest group}} \div \text{Rate}_{\text{reference group}}$).

^a Hispanic/Latino persons can be of any race.

- **Race/ethnicity (Figure 5):**

- American Indian/Alaska Native: 1%
- Asian: 2%
- Black/African American: 42%
- Hispanic/Latino: 27%
- Native Hawaiian/other Pacific Islander: <1%
- White: 26%
- Multiracial: 3%

Figure 5. Percentages of diagnoses of HIV infection among persons aged ≥13 years, by race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

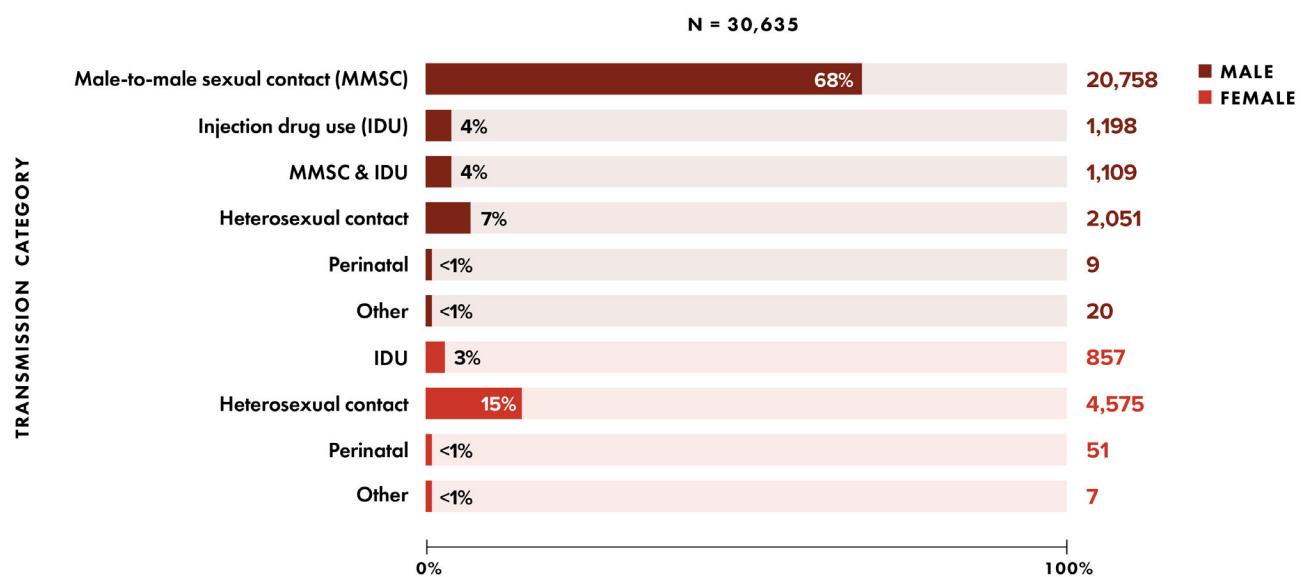


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Sex assigned at birth and transmission category—highest percentages (Figure 6, Table 1b):**
 - Overall: infections attributed to male-to-male sexual contact (MMSC) (68%)
 - Among male sex at birth: MMSC (83%)
 - Among female sex at birth: heterosexual contact (83%)

Figure 6. Percentages of diagnoses of HIV infection among persons aged ≥13 years, by sex assigned at birth and transmission category, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data have been statistically adjusted to account for missing transmission category. See section D4 in Technical Notes for more information on transmission categories.

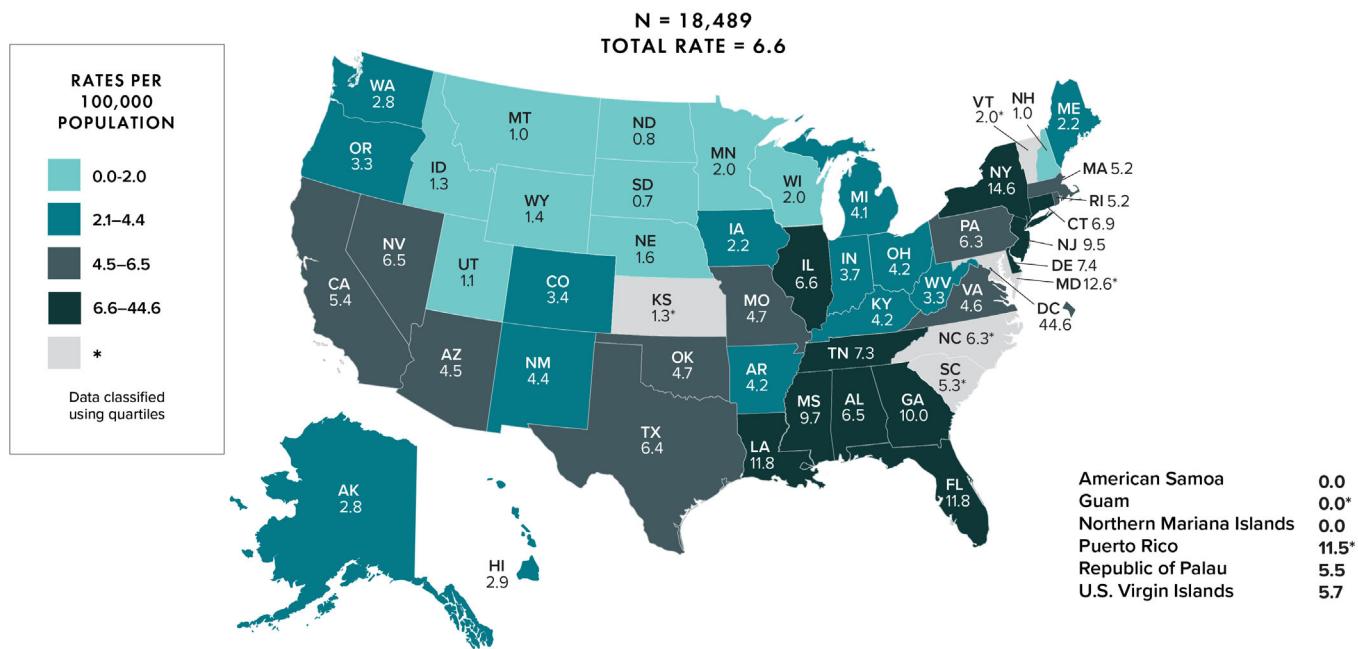
- **Gender and exposure category—highest percentages** (Table 4b):
 - Among transgender women: sexual contact (90%)
 - Among transgender men: sexual contact (73%)
 - Among AGI: sexual contact (82%)
 - **Region of residence, all persons** (Table 1b):
 - Northeast: 14%
 - Midwest: 13%
 - South: 51%
 - West: 21%
 - U.S. dependent areas: 1%

DEATHS

Deaths of persons with diagnosed HIV infection

In 2020, in the United States and 6 dependent areas, there were 18,493 deaths among persons with diagnosed HIV infection (persons aged \geq 13 years: 18,489) (Tables 12b). The overall rate of deaths was 5.6 (persons aged \geq 13 years: 6.6) (Figure 7).

Figure 7. Rates of deaths of persons aged ≥13 years with diagnosed HIV infection, 2020—United States and 6 dependent areas



Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Asterisk (*) indicates incomplete reporting. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

Deaths of persons aged ≥13 years with a diagnosis of HIV infection percentages and/or rates were as follows:

- **Gender, all persons** (Table 11b):

- Male: 74%
- Female: 24%
- Transgender woman/girl: 1%
- Transgender man/boy: <1%
- AGI: 0%

- **Age group** (Figure 8):

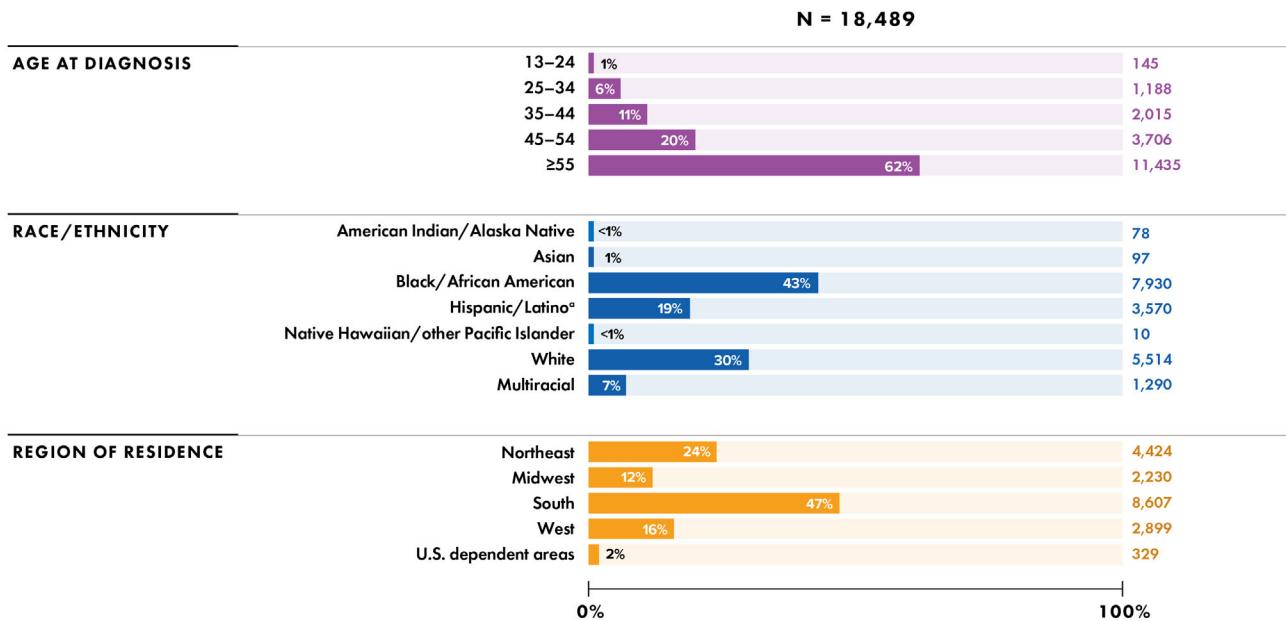
- 13–24 years: 1%
- 25–34 years: 6%
- 35–44 years: 11%
- 45–54 years: 20%
- ≥55 years: 62%

For additional data by 5-year age groups, see Table 11b.

- **Race/ethnicity** (Figure 8):

- American Indian/Alaska Native: <1%
- Asian: 1%
- Black/African American: 43%
- Hispanic/Latino: 19%
- Native Hawaiian/other Pacific Islander: <1%
- White: 30%
- Multiracial: 7%

Figure 8. Percentages of deaths among persons aged ≥13 years with diagnosed HIV infection, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Includes Asian/Pacific Islander legacy cases.

^b Hispanic/Latino persons can be of any race.

- **Rates (U.S. only) (Figure 9):**

- Highest: persons aged ≥ 55 years (11.5)
 - Lowest: persons aged 13–24 years (0.3)

For additional rates by age group, see Table 11a.

- *Disparities by age group:*

- Absolute disparity (rate difference)—If persons aged ≥ 55 years had the same rate as persons aged 25–34 years, 9 cases per 100,000 population would have been prevented.
 - Relative disparity (rate ratio)—Persons aged ≥ 55 years had a rate that was 4.4 times as high as persons aged 25–34 years.

- **Rates (U.S. only)** (Figure 9):

- Highest: Multiracial (25.7)
 - Lowest: Asian (0.6)

- *Disparities by race/ethnicity:*

- Absolute disparity (rate difference)—If multiracial persons aged ≥ 13 years had the same rate as White persons aged ≥ 13 years (3.2), 23 cases per 100,000 population would have been prevented.
 - Relative disparity (rate ratio)—Multiracial persons aged ≥ 13 years had a rate that was 8.0 times as high as White persons aged ≥ 13 years.

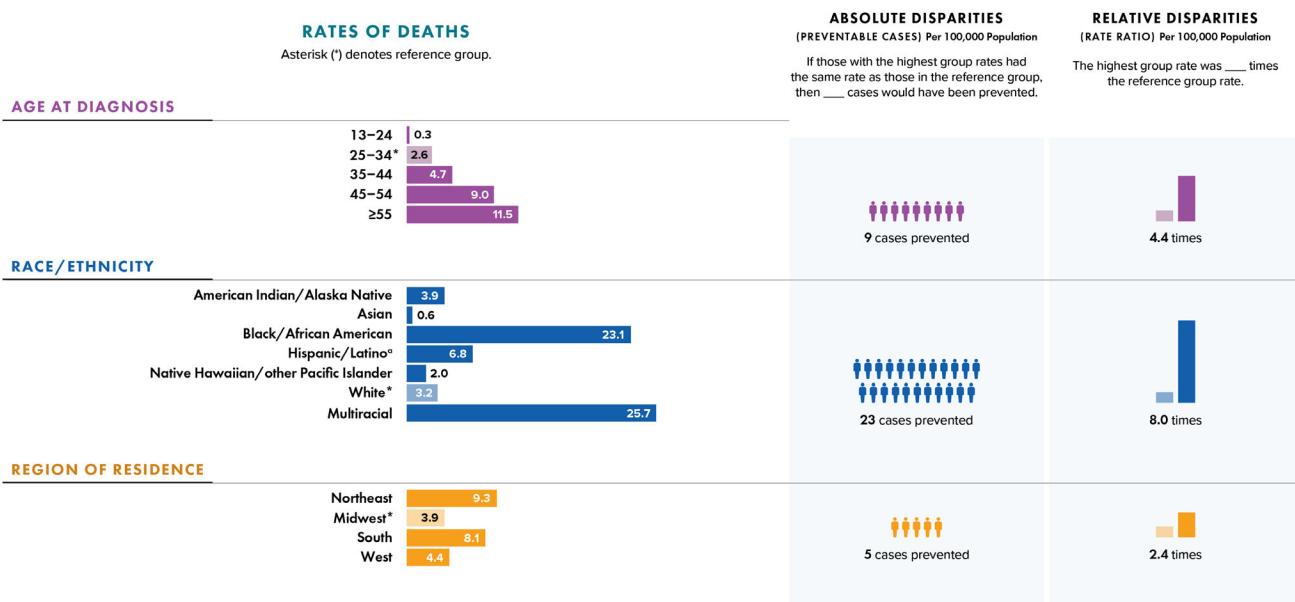
- **Rates (U.S. only) (Figure 9):**

- Highest: Northeast (9.3)
- Lowest: Midwest (3.9)

- ***Disparities by region:***

- Absolute disparities (rate difference): if the Northeast had the same rate as the Midwest, 5 cases per 100,000 population would have been prevented.
- Relative disparities (rate ratio): the Northeast had a rate that was 2.4 times as high as the Midwest.

Figure 9. Rates and disparities of deaths of persons aged ≥13 years with diagnosed HIV infection, by selected characteristics, 2020 (COVID-19 pandemic)—United States



Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Asterisk (*) indicates incomplete reporting. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Absolute disparity measures the difference between rates in groups with the highest rates and a reference group ($\text{Rate}_{\text{highest group}} - \text{Rate}_{\text{reference group}}$). Relative disparity (rate ratio) measures the rates in groups with the highest rates divided by a reference group ($\text{Rate}_{\text{highest group}} \div \text{Rate}_{\text{reference group}}$).

^a Hispanic/Latino persons can be of any race.

- **Sex assigned at birth and transmission category—highest percentages (Table 11b):**

- Overall: infections attributed to MMSC (43%)
- Among male sex at birth: MMSC (56%)
- Among female sex at birth: heterosexual contact (66%)

- **Gender and exposure category—highest percentages (Table 14b):**

- Among transgender women: sexual contact (68%)
- Among transgender men: sexual contact (67%)
- Among AGI: no deaths

- **Region of residence, all persons** (Table 11b):

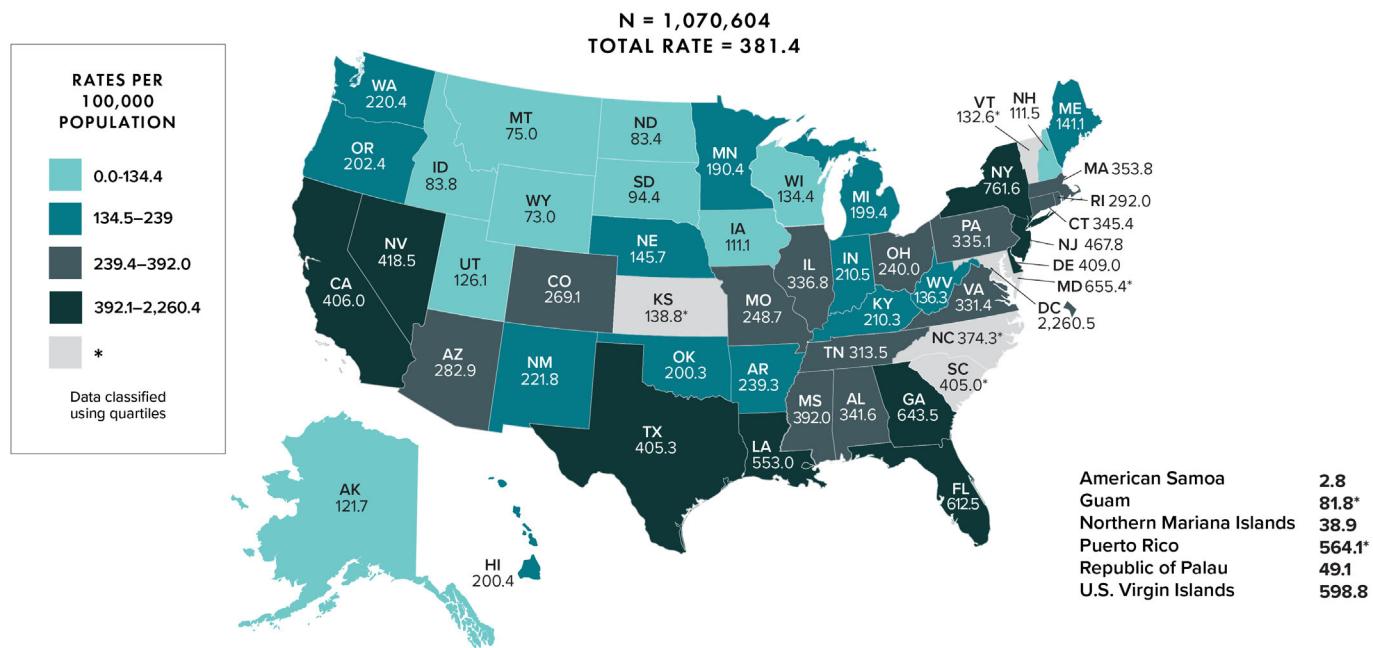
- Northeast: 24%
- Midwest: 12%
- South: 47%
- West: 16%
- U.S. dependent areas: 2%

PREVALENCE

Persons living with diagnosed HIV infection

At year-end 2020 in the United States and 6 dependent areas, 1,072,051 persons were living with diagnosed HIV infection (persons aged ≥ 13 years: 1,070,604) (Table 15b, 17b). The overall rate of persons living with diagnosed HIV infection was 321.9 (persons aged ≥ 13 years: 381.4) (Figure 10).

Figure 10. Rates of persons aged ≥ 13 years living with diagnosed HIV infection, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data are based on address of residence as of December 31, 2020 (i.e., most recent known address). Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Asterisk (*) indicates incomplete reporting.

Persons living with diagnosed HIV infection percentages and/or rates were as follows:

- **Gender** (Table 15b):

- Male: 76%
- Female: 23%
- Transgender woman/girl: 1%
- Transgender man/boy: <1%
- AGI: <1%

- **Age group** (Table 15b):

- 13–24 years: 3%
- 25–34 years: 15%
- 35–44 years: 19%
- 45–54 years: 24%
- ≥ 55 years: 39%

For additional data by 5-year age groups, see Table 15b.

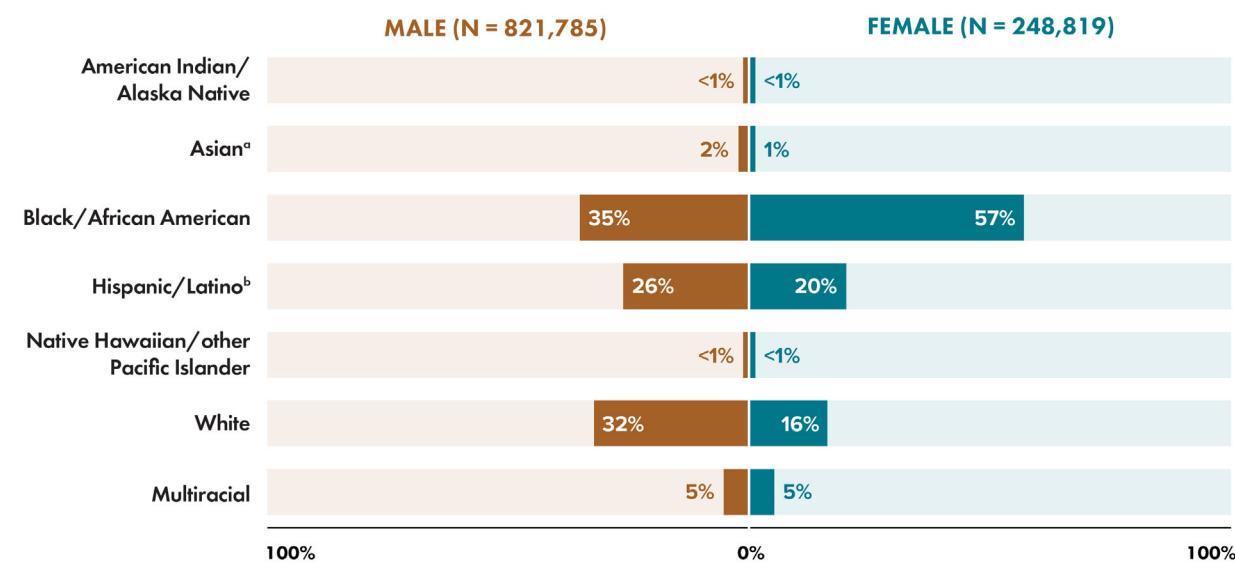
- **Race/ethnicity** (Figure 11):

- American Indian/Alaska Native: <1%
- Asian: 2%
- Black/African American: 40%
- Hispanic/Latino: 24%
- Native Hawaiian/other Pacific Islander: <1%
- White: 29%
- Multiracial: 5%

- **Sex assigned at birth and race/ethnicity, persons aged ≥ 13 years** (Figure 11):

- Highest among male sex at birth: Black/African American (35%)
- Highest among female sex at birth: Black/African American (57%)

Figure 11. Percentages of persons aged ≥ 13 years living with diagnosed HIV infection, by sex assigned at birth and race/ethnicity, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Includes Asian/Pacific Islander legacy cases.

^b Hispanic/Latino persons can be of any race.

- **Rates (U.S. only) (Table 15a):**
 - American Indian/Alaska Native: 133.5
 - Asian: 83.6
 - Black/African American: 1,038.0
 - Hispanic/Latino: 401.4
 - Native Hawaiian/other Pacific Islander: 152.6
 - White: 155.5
 - Multiracial: 693.7
- **Sex assigned at birth and transmission category, persons aged ≥13 years—highest percentages (Table 17b):**
 - Overall: infections attributed to MMSC (56%)
 - Among male sex at birth: MMSC (74%)
 - Among female sex at birth: heterosexual contact (77%)
- **Gender and exposure category, persons aged ≥13 years—highest percentages (Table 18b):**
 - Among transgender women: sexual contact (85%)
 - Among transgender men: sexual contact (75%)
 - Among AGI: sexual contact (87%)
- **Region of residence (Table 15b):**
 - Northeast: 22%
 - Midwest: 12%
 - South: 45%
 - West: 20%
 - U.S. dependent areas: 2%
- **Rates (U.S. only) (Table 15b):**
 - Highest: Northeast (421.4)
 - Lowest: Midwest (185.8)

Special Focus Profiles



Note. This is not a stock image. The persons in this image are living with HIV or are advocates for those living with HIV.

The Special Focus Profiles highlight the distribution of HIV in 6 populations of particular interest to HIV prevention programs in state and local health departments: (1) Gay, Bisexual, and Other Men Who Have Sex With Men, (2) Persons Who Inject Drugs, (3) Transgender Persons, (4) Women, and (5) Persons Aged 13–24 Years, and (6) Children Aged <13 Years. See suggested readings for references and additional information including HIV risk behaviors, barriers to care, and prevention challenges for each population of particular interest.

GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN

Gay, bisexual, and other men who have sex with men (MSM) are the population most affected by HIV in the United States. Stigma, homophobia, and discrimination make MSM of all races/ethnicities susceptible to multiple physical and mental health problems and can affect whether they seek and receive high-quality health services, including HIV testing, treatment, and other prevention services.

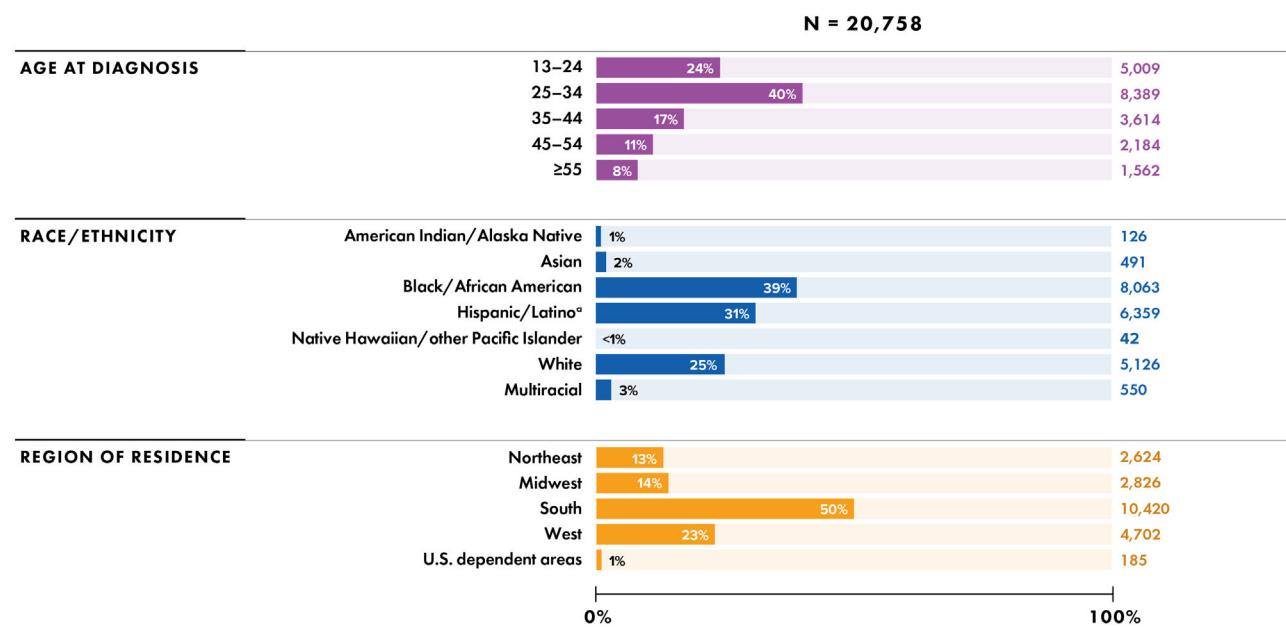
In 2020, MSM accounted for 71% (20,758 MMSC and 1,109 MMSC *and* IDU) of the 30,692 new HIV diagnoses in the United States and 6 dependent areas (Table 1b). Many Black/African American and Hispanic/Latino MSM with HIV, particularly young MSM, are unaware of their HIV infection. Lack of awareness of HIV status among young MSM may be due to recent infection, not getting tested due to underestimation of personal risk, or fewer opportunities to get tested. Persons who do not know they have HIV do not get medical care or receive treatment and can unknowingly infect others.

Diagnoses of HIV infection among MSM

HIV diagnosis percentages for 2020 were as follows:

- **Age group** (Figure 12):
 - 13–24 years: 24%
 - 25–34 years: 40%
 - 35–44 years: 17%
 - 45–54 years: 11%
 - ≥ 55 years: 8%
- **Race/ethnicity** (Figure 12):
 - American Indian/Alaska Native: 1%
 - Asian: 2%
 - Black/African American: 39%
 - Hispanic/Latino: 31%
 - Native Hawaiian/other Pacific Islander: <1%
 - White: 25%
 - Multiracial: 3%
- **Region of residence** (Figure 12):
 - Northeast: 13%
 - Midwest: 14%
 - South: 50%
 - West: 23%
 - U.S. dependent areas: 1%

Figure 12. Percentages of diagnoses of HIV infection among men who have sex with men, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

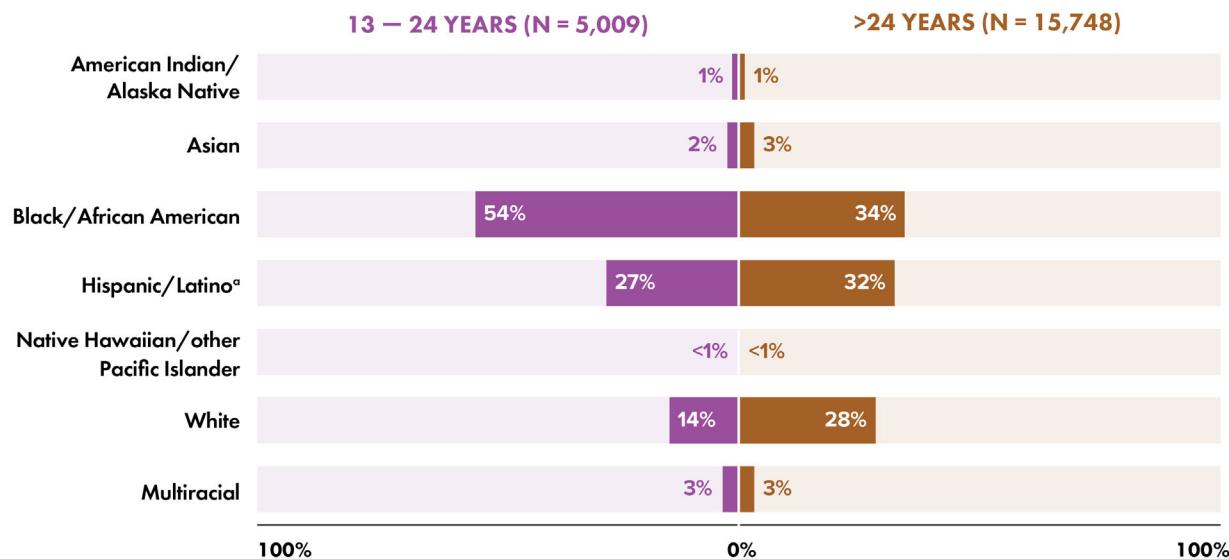


Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Age group and race/ethnicity—highest percentages by age group** (Figure 13):
 - Aged 13–24 years: Black/African American (54%)
 - Aged >24 years: Black/African American (34%)

Figure 13. Percentages of diagnoses of HIV infection among men who have sex with men, by age group and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

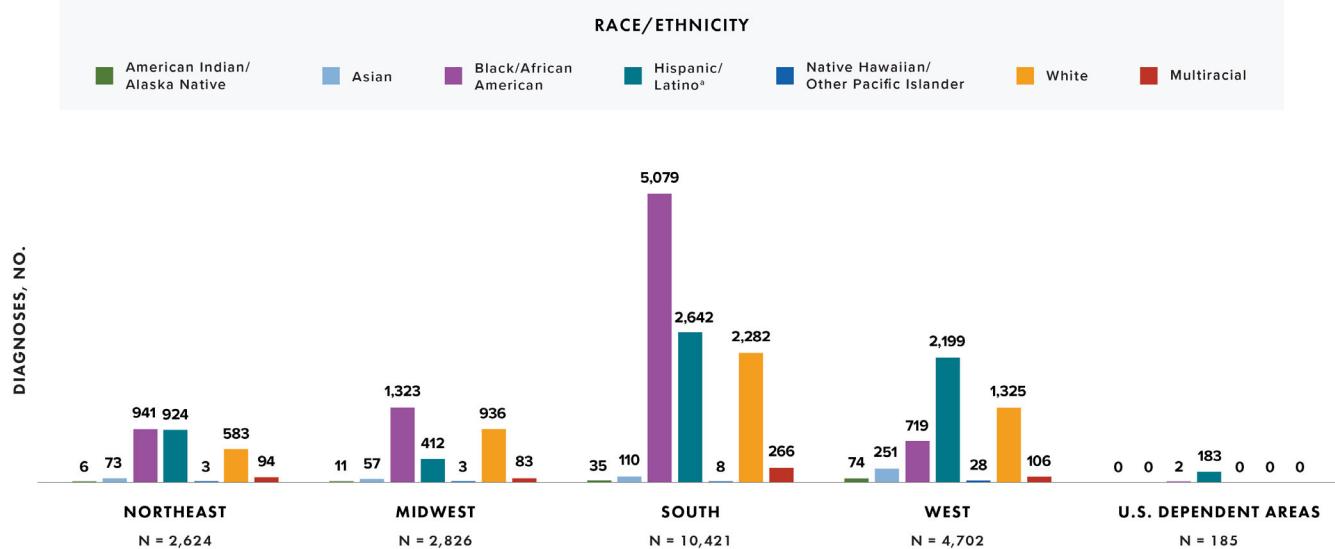


Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Region of residence and race/ethnicity—highest numbers and percentages by region** (Figure 14):
 - Northeast: Black/African American (941; 36%)
 - Midwest: Black/African American (1,323; 47%)
 - South: Black/African American (5,079; 49%)
 - West: Hispanic/Latino (2,199; 47%)
 - U.S. dependent areas: Hispanic/Latino (183; 99%)

Figure 14. Diagnoses of HIV infection among men who have sex with men, by region of residence and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Prevalence and race/ethnicity** (Table 16b):

At year-end 2020 in the United States and 6 dependent areas, 604,590 MSM were living with diagnosed HIV infection attributed to MMSC.

Prevalence by race/ethnicity was as follows:

- American Indian/Alaska Native: <1%
- Asian: 2%
- Black/African American: 31%
- Hispanic/Latino: 26%
- Native Hawaiian/other Pacific Islander: <1%
- White: 36%
- Multiracial: 5%

PERSONS WHO INJECT DRUGS

Persons who inject drugs (PWID) can get HIV if they use and share needles, syringes, or other drug injection equipment (e.g., cookers) that someone with HIV has used. In 2020, persons who inject drugs account for about 1 in 15 HIV diagnoses in the United States. In recent years, the opioid (including prescription and synthetic opioids) and heroin crisis has led to increased numbers of PWID. HIV diagnoses among PWID have increased

in the 50 states and District of Columbia. IDU in nonurban areas has created prevention challenges and brought attention to populations who would benefit from HIV prevention efforts.

Diagnoses of HIV infection among PWID

In 2020, in the United States and 6 dependent areas, 2,055 diagnoses of HIV infection were attributed to IDU (1,198 among male and 857 among female PWID) (Table 6b).

HIV diagnosis percentages among PWID for 2020 were as follows:

- **Age group** (Figure 15):

- 13–24 years: 6%
 - 25–34 years: 32%
 - 35–44 years: 27%
 - 45–54 years: 18%
 - ≥ 55 years: 17%

For additional data by 5-year age groups, see Table 6b.

- **Race/ethnicity** (Figure 15):

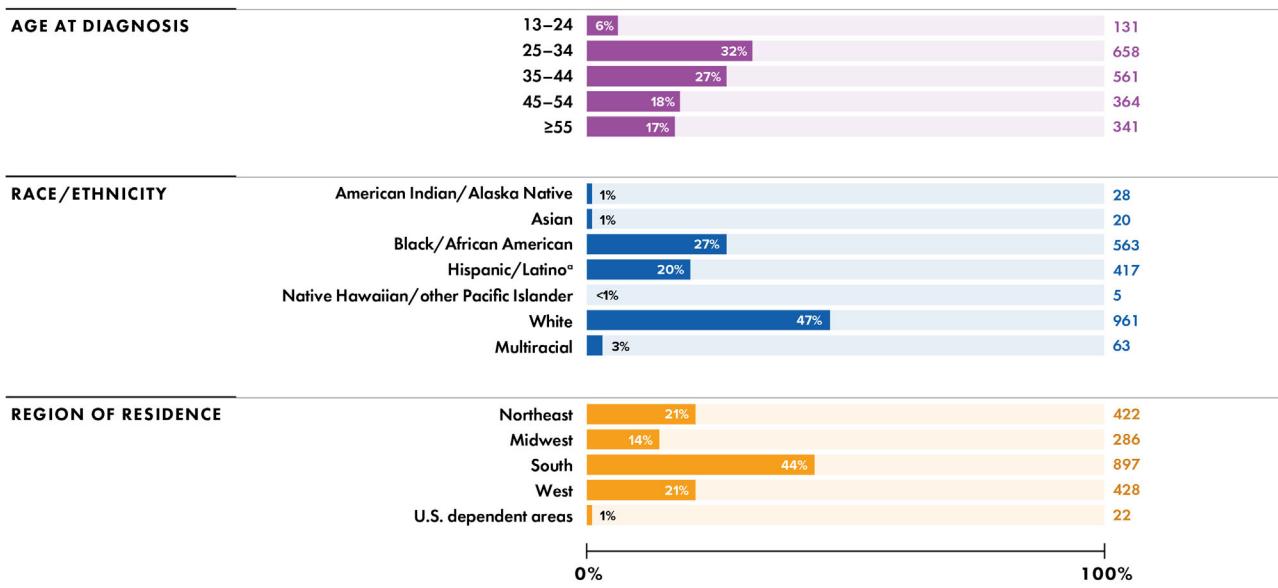
- American Indian/Alaska Native: 1%
 - Asian: 1%
 - Black/African American: 27%
 - Hispanic/Latino: 20%
 - Native Hawaiian/other Pacific Islander: <1%
 - White: 47%
 - Multiracial: 3%

- **Region of residence** (Figure 15):

- Northeast: 21%
 - Midwest: 14%
 - South: 44%
 - West: 21%
 - U.S. dependent areas: 1%

Figure 15. Percentages of diagnoses of HIV infection among persons who inject drugs, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

N = 2,055

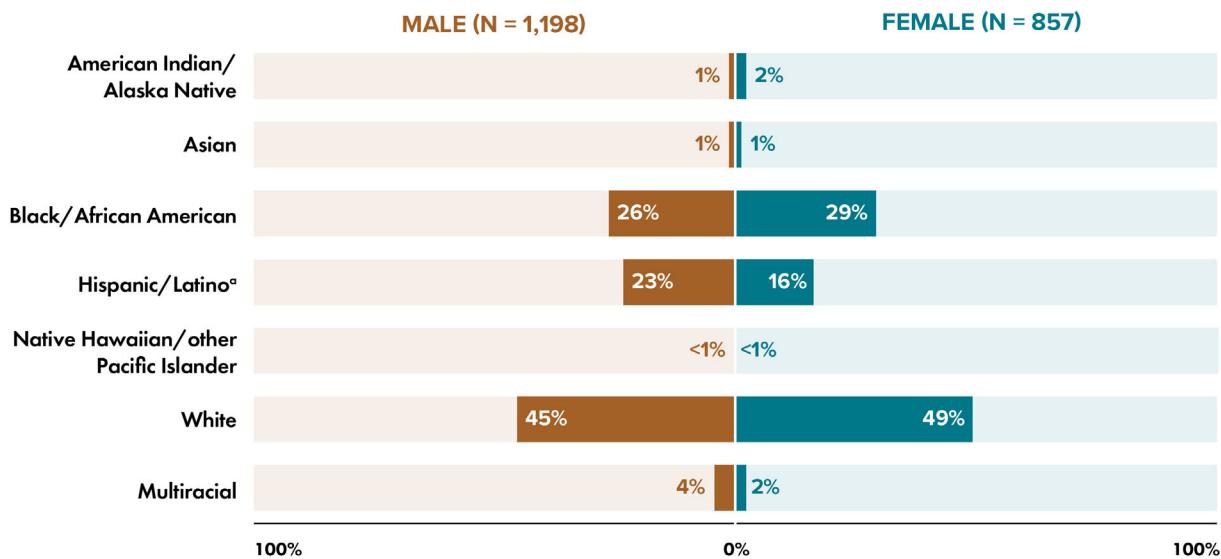


Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Sex assigned at birth and race/ethnicity—highest percentages (Figure 16):**
 - White female: 49%
 - White male: 45%
 - Black/African American female: 29%
 - Black/African American male: 26%

Figure 16. Percentages of diagnoses of HIV infection among persons who inject drugs, by sex assigned at birth and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

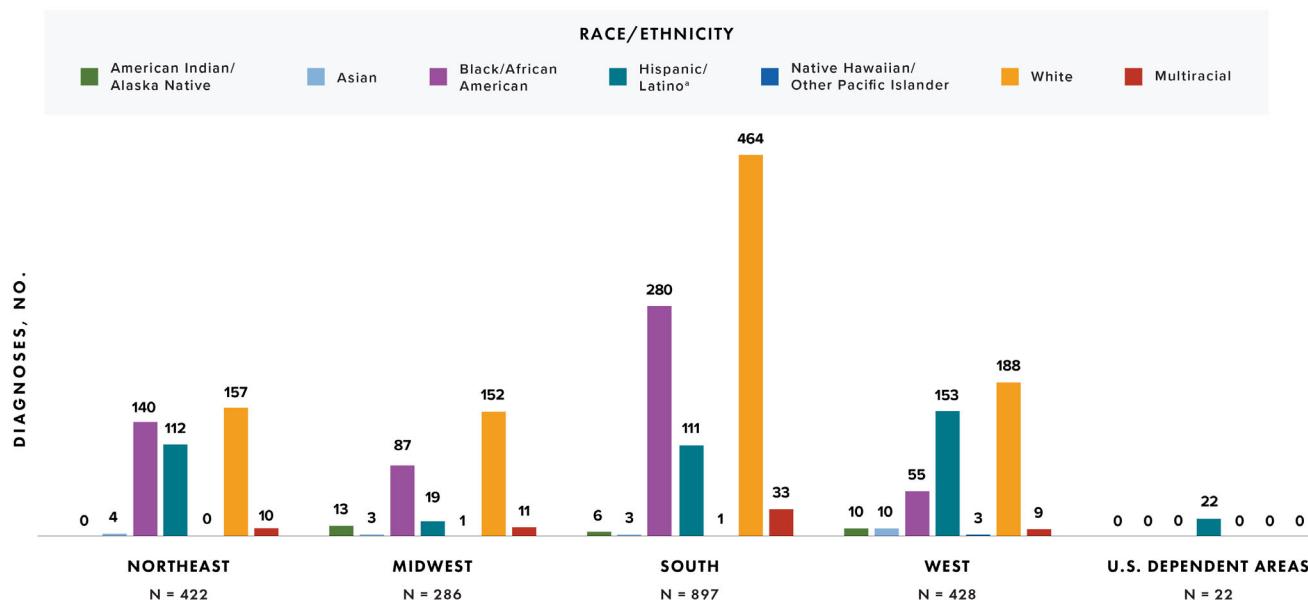


Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Region of residence and race/ethnicity—highest numbers and percentages by region (Figure 17):**
 - Northeast: White (157; 37%)
 - Midwest: White (152; 53%)
 - South: White (464; 52%)
 - West: White (188; 44%)
 - U.S. dependent areas: Hispanic/Latino (22; 100%)

Figure 17. Diagnoses of HIV infection among persons who inject drugs, by region and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Prevalence and race/ethnicity (Table 16b):**

- At year-end 2020 in the United States and 6 dependent areas, 118,213 PWID were living with diagnosed HIV infection. Prevalence by race/ethnicity was as follows:
- American Indian/Alaska Native: <1%
- Asian: 1%
- Black/African American: 45%
- Hispanic/Latino: 27%
- Native Hawaiian/other Pacific Islander: <1%
- White: 22%
- Multiracial: 5%

TRANSGENDER PERSONS

Transgender is an umbrella term that is used to identify persons whose sex assigned at birth does not match current gender identity or expression. *Gender identity* refers to one's internal understanding of one's own gender, or the gender with which a person identifies. *Gender expression* is a term used to describe people's outward presentation of their gender. Gender identity and sexual orientation are different facets of identity. Everyone has a gender identity and a sexual orientation, but a person's gender does not determine a person's sexual orientation. Transgender persons may identify as heterosexual, homosexual, bisexual, or none of the above. Transgender persons are understudied in HIV prevention (e.g., preexposure prophylaxis [PrEP]) and treatment interventions and face numerous prevention challenges, including social rejection and exclusion and lack of public/provider knowledge about transgender issues.

Diagnoses of HIV infection

In 2020, in the United States and 6 dependent areas, 697 diagnoses of HIV infection were among transgender and AGI persons (Table 4b). Diagnoses of HIV infection among transgender persons accounted for approximately 2% of diagnoses. Transgender women accounted for the highest percentage of diagnoses of HIV infections (92%).

HIV diagnosis percentages among transgender and AGI persons for 2020 were as follows:

- **Age group** (Figure 18):

- 13–24 years: 28%
- 25–34 years: 49%
- 35–44 years: 13%
- 45–54 years: 7%
- ≥ 55 years: 2%

For additional data by 5-year age groups, see Table 4b.

- **Race/ethnicity** (Figure 18):

- American Indian/Alaska Native: 1%
- Asian: 2%
- Black/African American: 47%
- Hispanic/Latino: 31%
- Native Hawaiian/other Pacific Islander: <1%
- White: 13%
- Multiracial: 5%

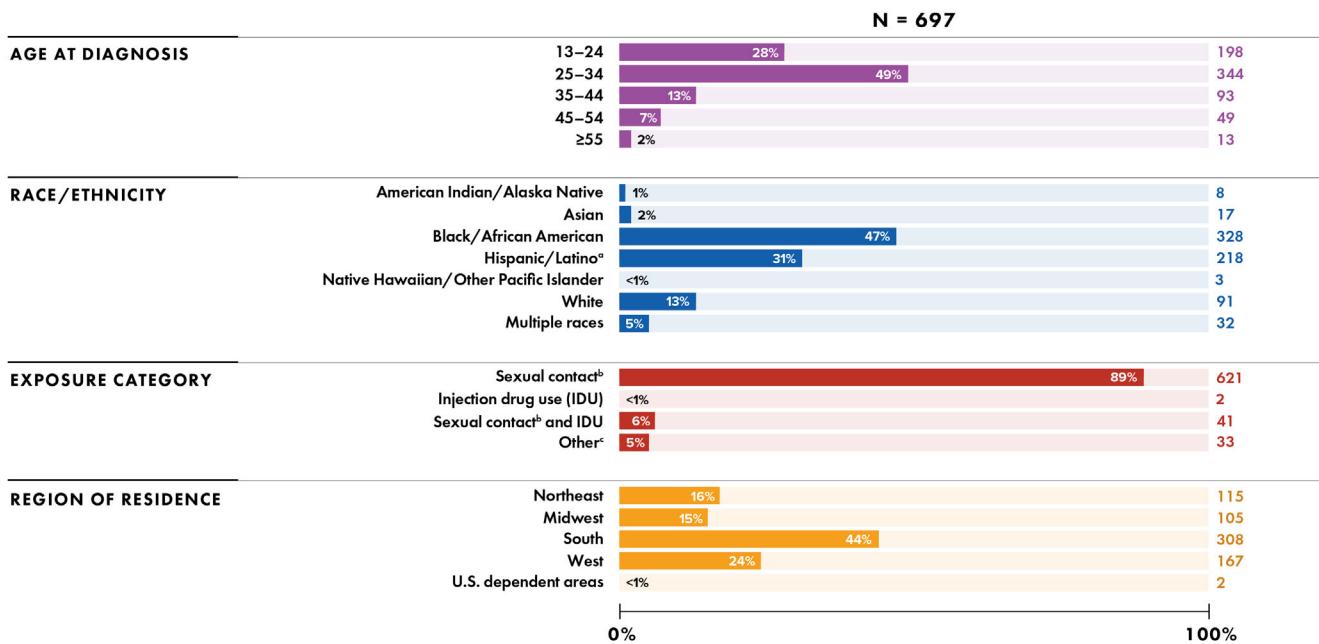
- **Exposure category** (Figure 18):

- Sexual contact: 89%
- IDU: <1%
- Sexual contact and IDU: 6%
- Other: 5%

- **Region of residence** (Figure 18):

- Northeast: 16%
- Midwest: 15%
- South: 44%
- West: 24%
- U.S. dependent areas: <1%

Figure 18. Percentages of diagnoses of HIV infection among transgender and additional gender identity persons aged ≥13 years, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

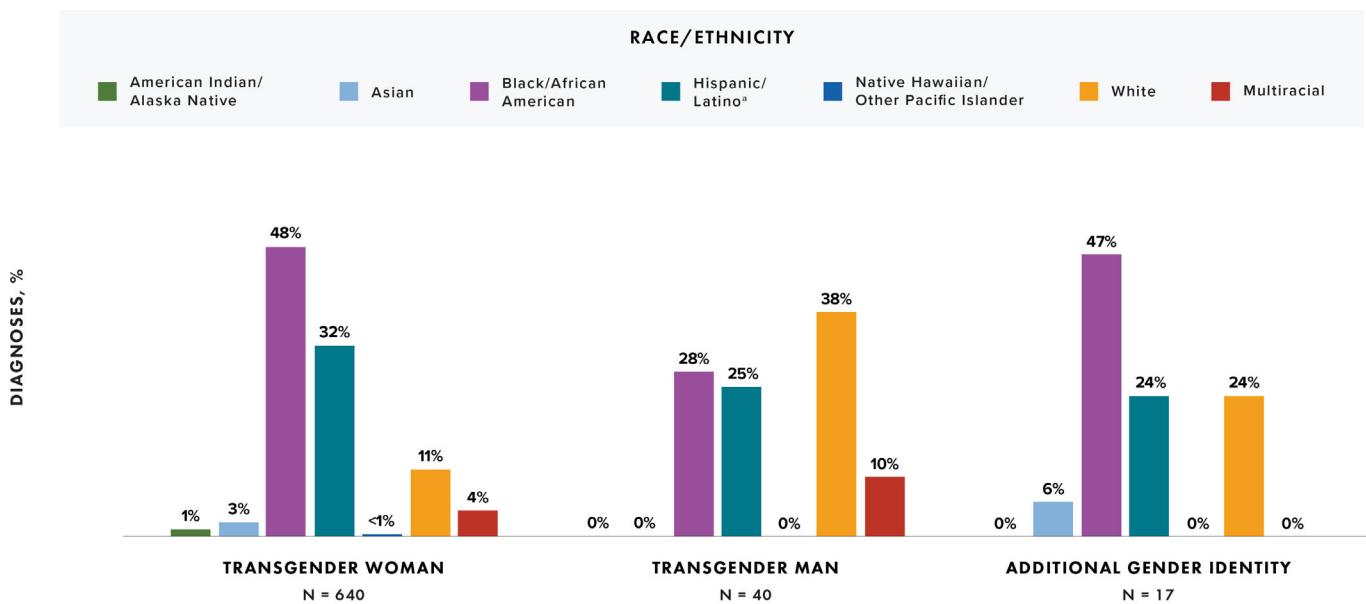
^b For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

^c Other risk factors, including perinatal, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for "Other" might be high.

- Gender and race/ethnicity—highest percentages (Figure 19):

- Transgender woman: Black/African American (48%)
 - Transgender man: White (38%)
 - AGI: Black/African American (47%)

Figure 19. Percentages of diagnoses of HIV infection among transgender and additional gender identity persons aged ≥13 years, by gender and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

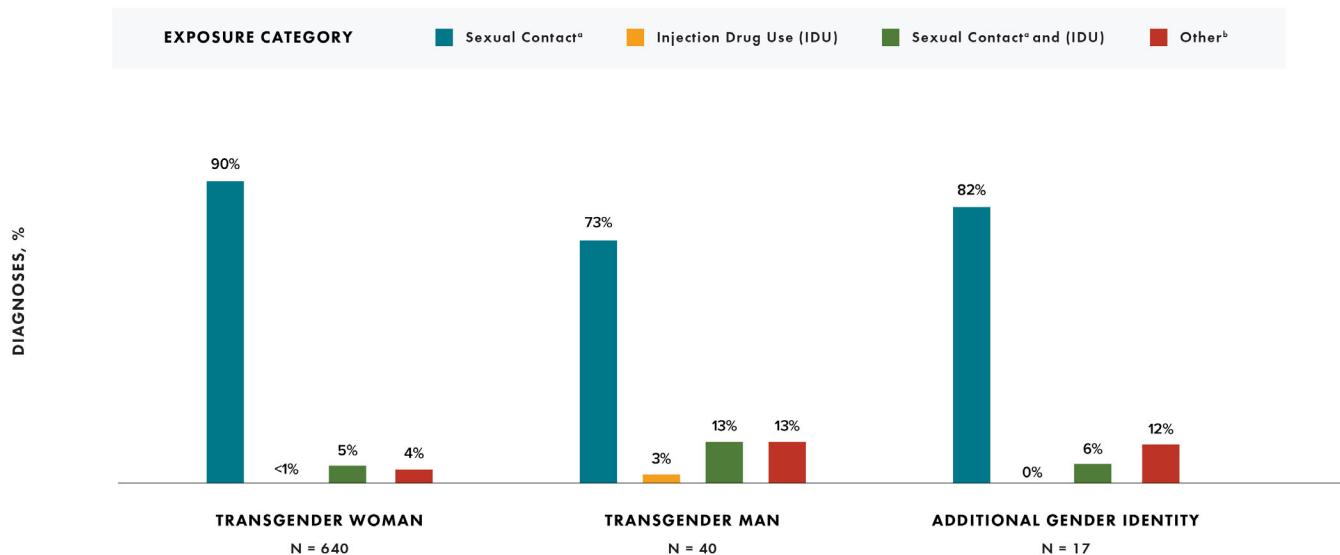


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Gender and exposure category—highest percentages (Figure 20):**
 - Transgender woman: sexual contact (90%)
 - Transgender man: sexual contact (73%)
 - AGI: sexual contact (82%)

Figure 20. Percentages of diagnoses of HIV infection among transgender and additional gender identity persons aged ≥13 years, by gender and exposure category, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

^b Other risk factors, including perinatal, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

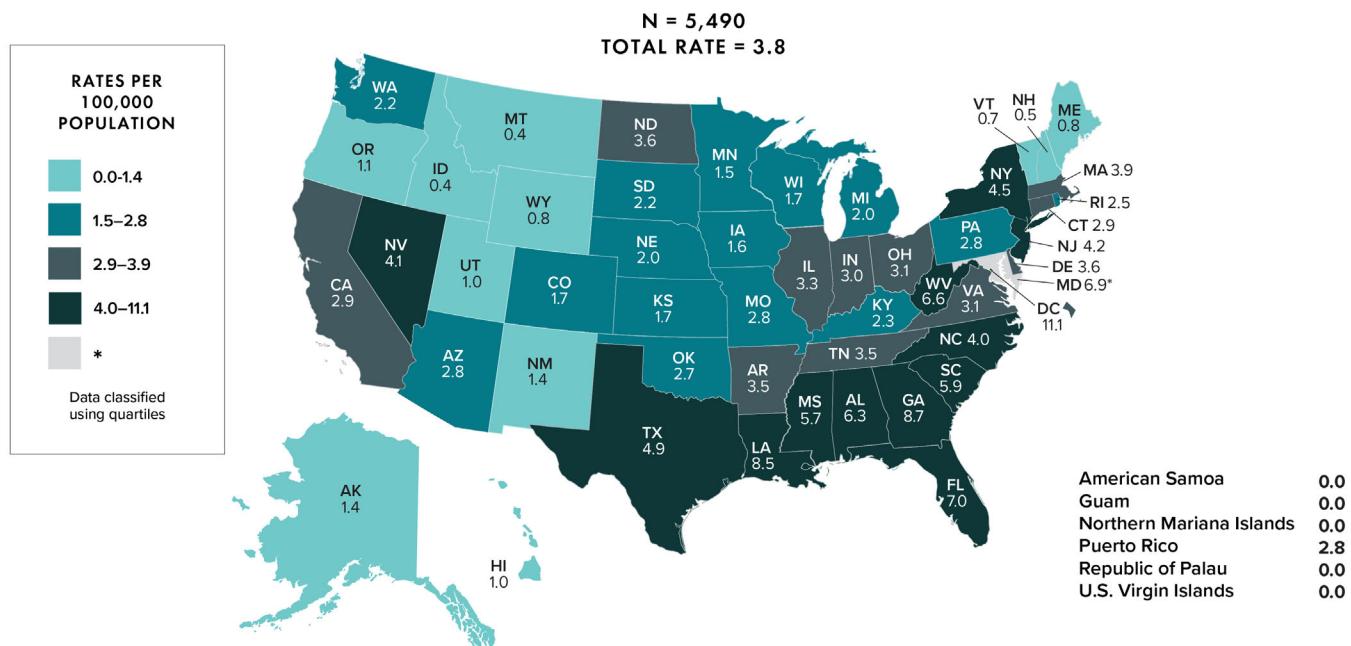
WOMEN

More than 5,000 women received an HIV diagnosis in the United States and 6 dependent areas in 2020. One in nine women with HIV are unaware they have it. Because some women may be unaware of their male partner’s risk factors for HIV (such as injection drug use or having sex with men), they may not use condoms or medicines to prevent HIV. Additionally, HIV testing rates within the past year were low among women with sexual behaviors that increase their risk of acquiring HIV and especially low among those who reported anal sex.

Diagnoses of HIV infection

In 2020 in the United States and 6 dependent areas, the rate of diagnoses of HIV infection among females aged ≥ 13 years was 3.8 (Figure 21).

Figure 21. Rates of diagnoses of HIV infection among females aged ≥ 13 years, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

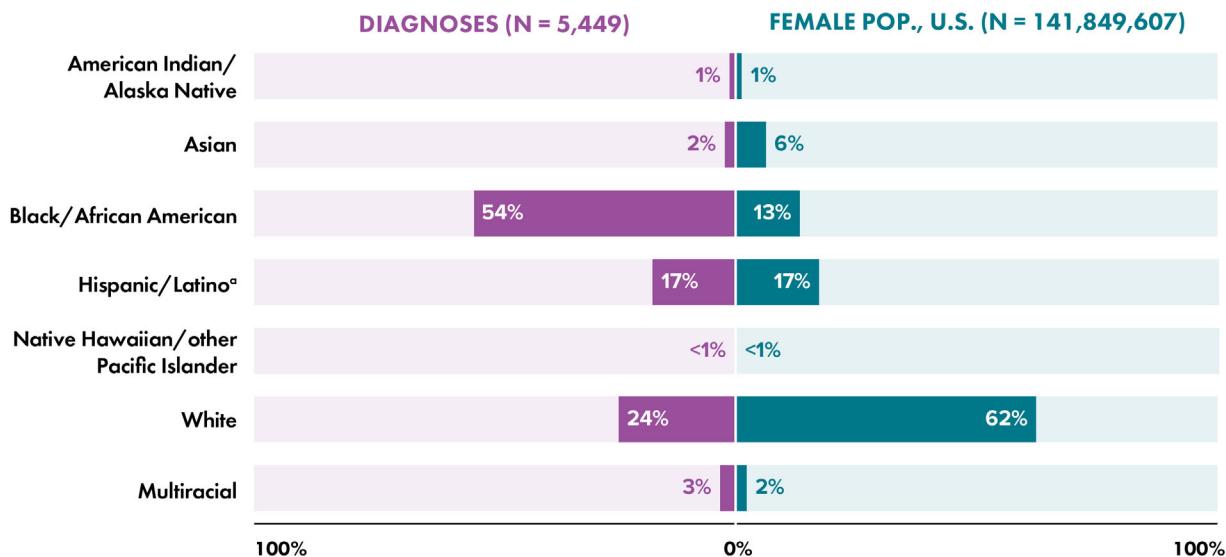


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Asterisk (*) indicates incomplete reporting.

In 2020 in the United States (Figure 22):

- Black/African American females aged ≥ 13 years made up 13% of the female population but accounted for 54% of diagnoses of HIV infection among females.
- White females aged ≥ 13 years made up 62% of the female population and accounted for 24% of diagnoses of HIV infection.
- Hispanic/Latino females aged ≥ 13 years made up 17% of the female population and accounted for 17% of diagnoses of HIV infection.

Figure 22. Percentages of diagnoses of HIV infection and population among females aged ≥ 13 years, by race/ethnicity, 2020 (COVID-19 pandemic)—United States



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

HIV diagnosis rates among females aged ≥ 13 years were as follows:

- **Age group (U.S. only)** (Figure 23):

- 13–24 years: 2.9
- 25–34 years: 7.0
- 35–44 years: 6.0
- 45–54 years: 4.9
- ≥ 55 years: 1.6

For additional data by 5-year age groups, see Table 3a.

- ***Disparities by age group:***

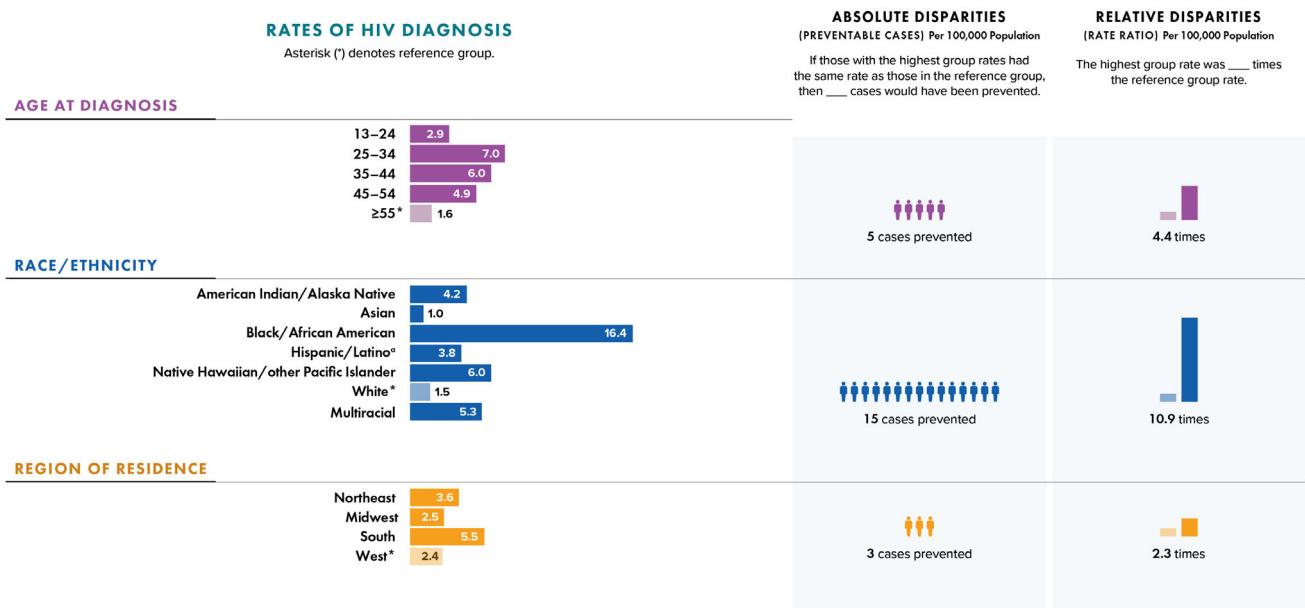
- Absolute disparity (rate difference)—If persons aged 25–34 years had the same rate as persons aged ≥ 55 years, 5 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio)—Persons aged 25–34 years had a rate that was 4.4 times as high as persons aged ≥ 55 years.

- **Race/ethnicity (U.S. only)** (Figure 23):

- American Indian/Alaska Native: 4.2
- Asian: 1.0
- Black/African American: 16.4
- Hispanic/Latino: 3.8
- Native Hawaiian/other Pacific Islander: 6.0
- White: 1.5
- Multiracial: 5.3

- **Disparities by race/ethnicity:**
 - Absolute disparity (rate difference)—If Black/African American persons aged ≥ 13 years had the same rate as White persons aged ≥ 13 years (1.5), 15 cases per 100,000 population would have been prevented.
 - Relative disparity (rate ratio)—Black/African American persons aged ≥ 13 years had a rate that was 10.9 times as high as White persons aged ≥ 13 years.
- **Region of residence (U.S. only)** (Figure 23):
 - Northeast: 3.6
 - Midwest: 2.5
 - South: 5.5
 - West: 2.4
- **Disparities by region:**
 - Absolute disparities (rate difference): if the South had the same rate as the West, 3 cases per 100,000 population would have been prevented.
 - Relative disparities (rate ratio): the South had a rate that was 2.3 times as high as the West.

Figure 23. Rates and disparities of diagnoses of HIV infection among females aged ≥ 13 years, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

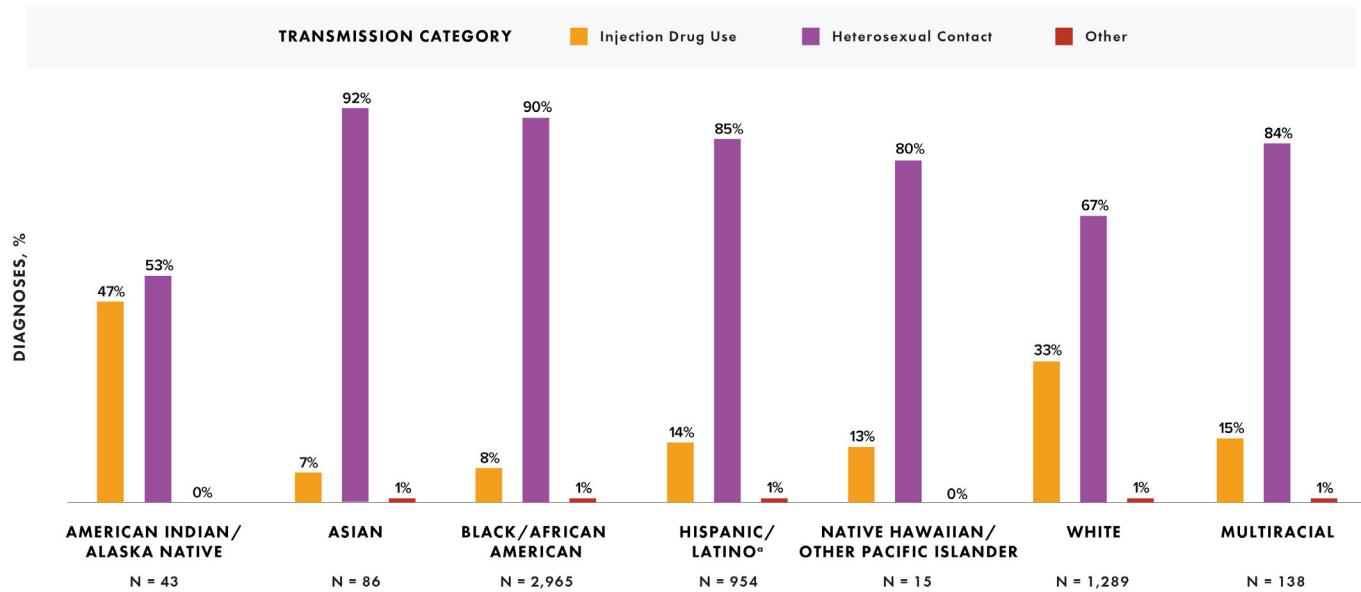


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Absolute disparity measures the difference between rates in groups with the highest rates and a reference group ($\text{Rate}_{\text{highest group}} - \text{Rate}_{\text{reference group}}$). Relative disparity (rate ratio) measures the rates in groups with the highest rates divided by a reference group ($\text{Rate}_{\text{highest group}} \div \text{Rate}_{\text{reference group}}$).

^a Hispanic/Latino persons can be of any race.

- **Transmission category and race/ethnicity—highest percentages** (Figure 24):
 - PWID: American Indian/Alaska Native (47%)
 - Heterosexual contact: Asian (92%)

Figure 24. Percentages of diagnoses of HIV infection among females aged ≥13 years, by transmission category and race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



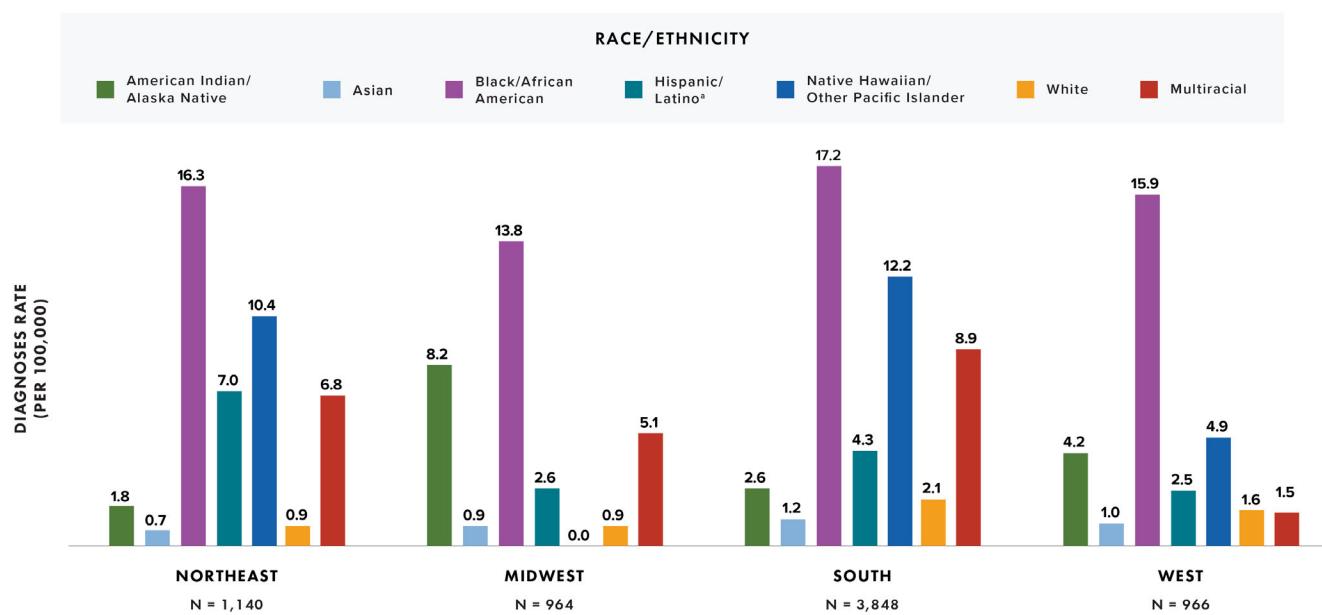
Note. Data have been statistically adjusted to account for missing transmission category. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Region of residence and race/ethnicity—highest rates (U.S. only) (Figure 25):**

- Northeast: Black/African American (16.3)
- Midwest: Black/African American (13.8)
- South: Black/African American (17.2)
- West: Black/African American (15.9)

Figure 25. Rates of diagnoses of HIV infection among females aged ≥13 years, by race/ethnicity and region, 2020 (COVID-19 pandemic)—United States



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Prevalence and race/ethnicity (Table 16b):**

- At year-end 2020 in the United States and 6 dependent areas, 248,819 females aged ≥13 years were living with diagnosed HIV infection. Prevalence by race/ethnicity was as follows:
- American Indian/Alaska Native: <1%
- Asian: 1%
- Black/African American: 57%
- Hispanic/Latino: 20%
- Native Hawaiian/other Pacific Islander: <1%
- White: 16%
- Multiracial: 5%

PERSONS AGED 13–24 YEARS

Persons aged 13–24 years accounted for 20% of the 30,692 diagnoses of HIV infection in 2020 in the United States and 6 dependent areas. They are the least likely of any age group to be aware of their HIV infection, retained in care, or have a suppressed viral load. Lack of awareness of HIV status may be due to recent infection or low rates of HIV testing. Persons who do not know that they have HIV do not get medical care or receive treatment and can unknowingly infect others. In addition, persons aged 13–24 years have high rates of STDs and low rates of condom use, greatly increasing the chance of getting or transmitting HIV. Addressing HIV among persons aged 13–24 years requires that they have access to the information and tools they need to make healthy decisions, reduce their risk factors, get treatment, and stay in care.

Diagnoses of HIV infection

In 2020 in the United States and 6 dependent areas, there were 6,135 diagnoses of HIV infection among persons aged 13–24 years (Figure 26, Table 8b).

The percentage and/or rates of diagnoses of HIV infection among persons aged 13–24 years were as follows:

- **Gender** (Figure 26):

- Male: 85%
- Female: 12%
- Transgender woman: 3%
- Transgender man: <1%
- AGI: <1%

- **Age group** (Figure 26):

- 13–14 years: <1%
- 15–17 years: 5%
- 18–19 years: 16%
- 20–21 years: 45%
- 23–24 years: 35%

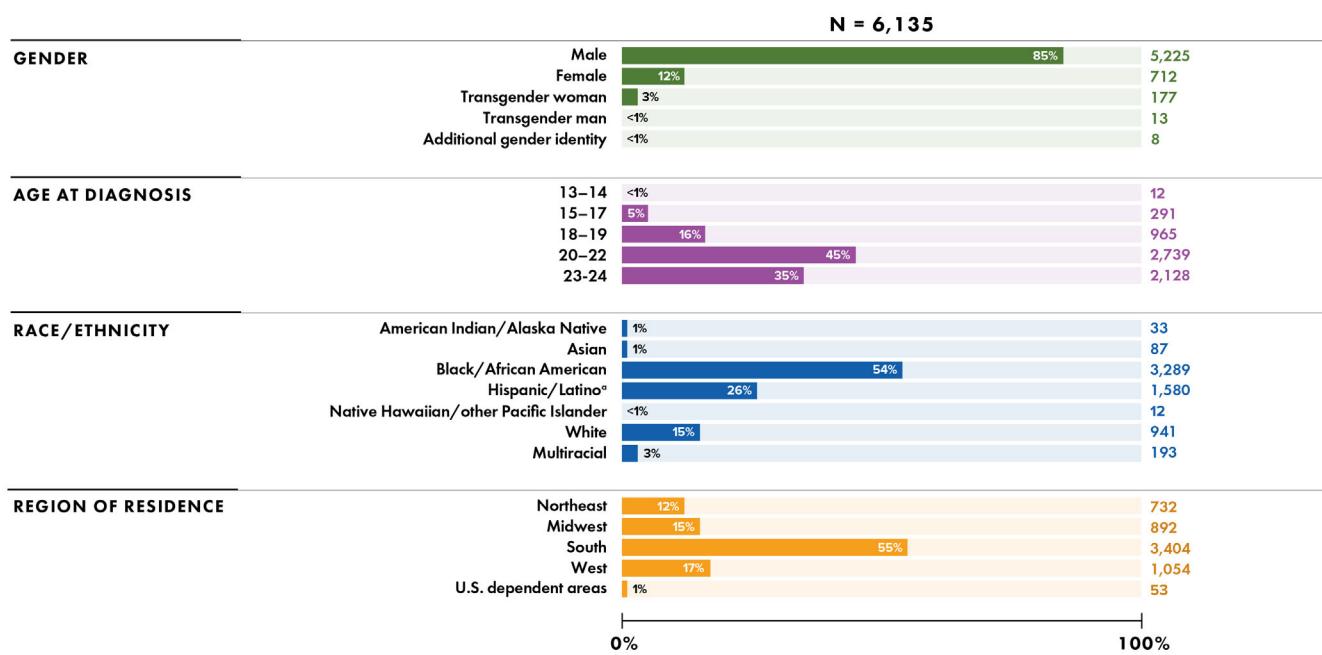
- **Race/ethnicity** (Figure 26):

- American Indian/Alaska Native: 1%
- Asian: 1%
- Black/African American: 54%
- Hispanic/Latino: 26%
- Native Hawaiian/other Pacific Islander: <1%
- White: 15%
- Multiracial: 3%

- **Region of residence** (Figure 26):

- Northeast: 12%
- Midwest: 15%
- South: 55%
- West: 17%
- U.S. dependent areas: 1%

Figure 26. Percentages of diagnoses of HIV infection among persons aged 13–24 years, by selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

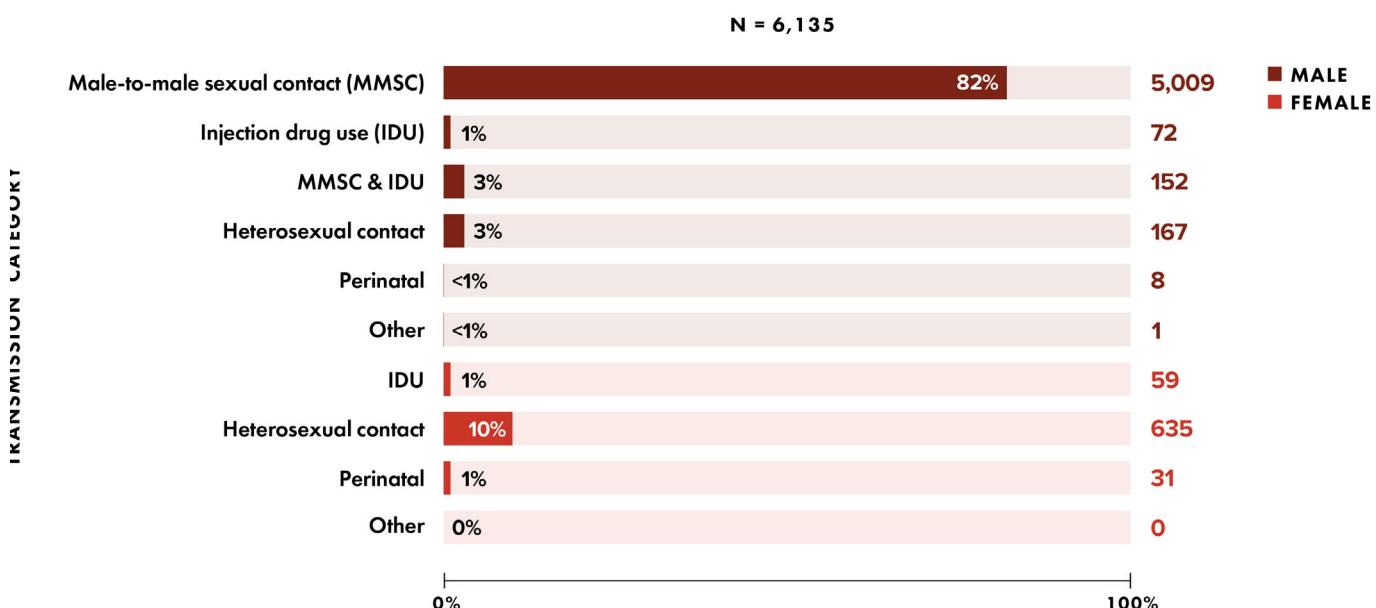


Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Sex assigned at birth and transmission category—highest percentages (Figure 27):**
 - Male sex at birth: MMSC (82%)
 - Female sex at birth: heterosexual contact (10%)

Figure 27. Percentages of diagnoses of HIV infection among persons aged 13–24 years, by sex assigned at birth and transmission category, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

- **Rates (U.S. only)** (Figure 28):

- Highest: persons aged 23–24 years (24.2)
- Lowest: persons aged 13–14 years (0.1)

- **Disparities by age group:**

- Absolute disparity (rate difference)—If persons aged 23–24 years had the same rate as persons aged 18–19 years (11.4), 13 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio)—Persons aged 23–24 years had a rate that was 2.1 times as high as persons aged 18–19 years.

- **Rates (U.S. only)** (Figure 28):

- Highest: Black/African American (46.6)
- Lowest: Asian (3.1)

- **Disparities by race/ethnicity:**

- Absolute disparity (rate difference)—If Black/African American persons aged 13–24 years had the same rate as White persons aged 13–24 years (3.5), 43 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio)—Black/African American persons aged 13–24 years had a rate that was 13.3 times as high as White persons aged 13–24 years.

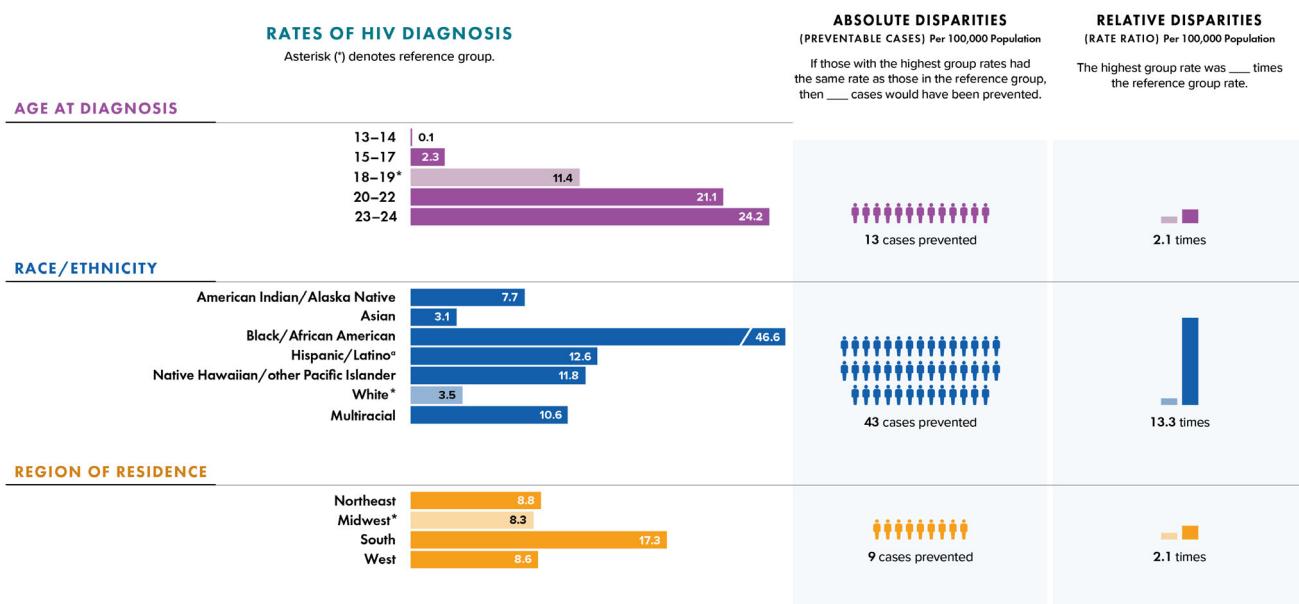
- **Rates (U.S. only)** (Figure 28):

- Highest: South (17.3)
- Lowest: Midwest (8.3)

- **Disparities by region:**

- Absolute disparity (rate difference): if the South had the same rate as the Midwest, 9 cases per 100,000 population would have been prevented.
- Relative disparity (rate ratio): the South had a rate that was 2.1 times as high as the Midwest.

Figure 28. Rates and disparities of diagnoses of HIV infection among persons aged 13–24 years, by selected characteristics, 2020 (COVID-19 pandemic)—United States



Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Absolute disparity measures the difference

between rates in groups with the highest rates and a reference group ($\text{Rate}_{\text{highest group}} - \text{Rate}_{\text{reference group}}$). Relative disparity (rate ratio) measures the rates in groups with the highest rates divided by a reference group ($\text{Rate}_{\text{highest group}} \div \text{Rate}_{\text{reference group}}$).

^a Hispanic/Latino persons can be of any race.

CHILDREN AGED <13 YEARS

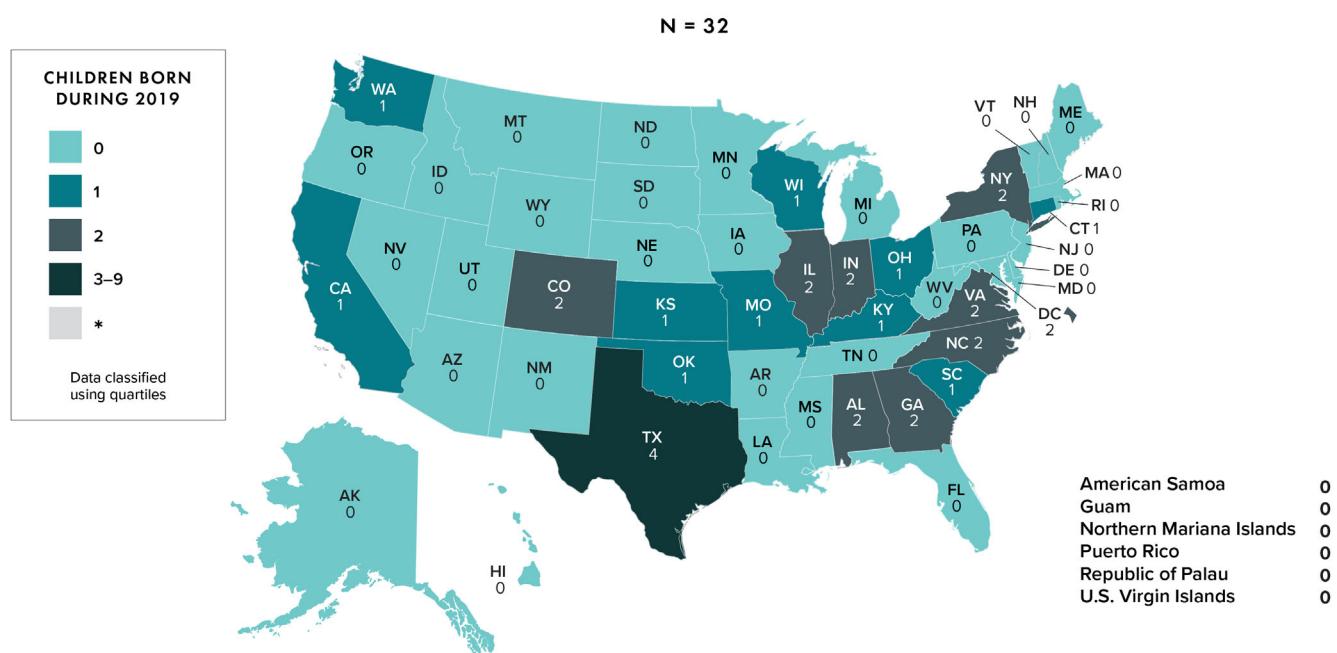
To make informed decisions about antiretroviral therapy to reduce perinatal transmission of HIV to infants, pregnant women should know their HIV infection status. In 1995, the first recommendations for HIV counseling and voluntary testing for pregnant women were published. In 2006, CDC released revised recommendations for HIV testing which specified that opt-out HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women.

In 2019, 37 areas reported no perinatally acquired infections among infants born. Because of delays in the reporting of births and diagnoses of HIV infection attributed to perinatal exposure, the exclusion of data for the most recent 2 years allowed at least 24 months for data from 2019 to be reported to CDC. Data reflect all infants with diagnosed, perinatally acquired HIV infection who were born in the United States and 6 dependent areas during 2019, regardless of year of diagnosis.

Diagnoses of HIV infection

In the United States and 6 dependent areas, a total of 32 children born during 2019 received a diagnosis of HIV infection attributed to perinatal transmission (Figure 29).

Figure 29. Diagnoses of perinatally acquired HIV infection among children born during 2019—United States and 6 dependent areas



Infected infants (Figure 30): From 2016 through 2019 in the United States and Puerto Rico, among the 193 children born with diagnosed, perinatally acquired HIV infection, time of maternal HIV testing was as follows:

- 45% were born to mothers who were tested before pregnancy
- 19% were born to mothers who were tested during pregnancy

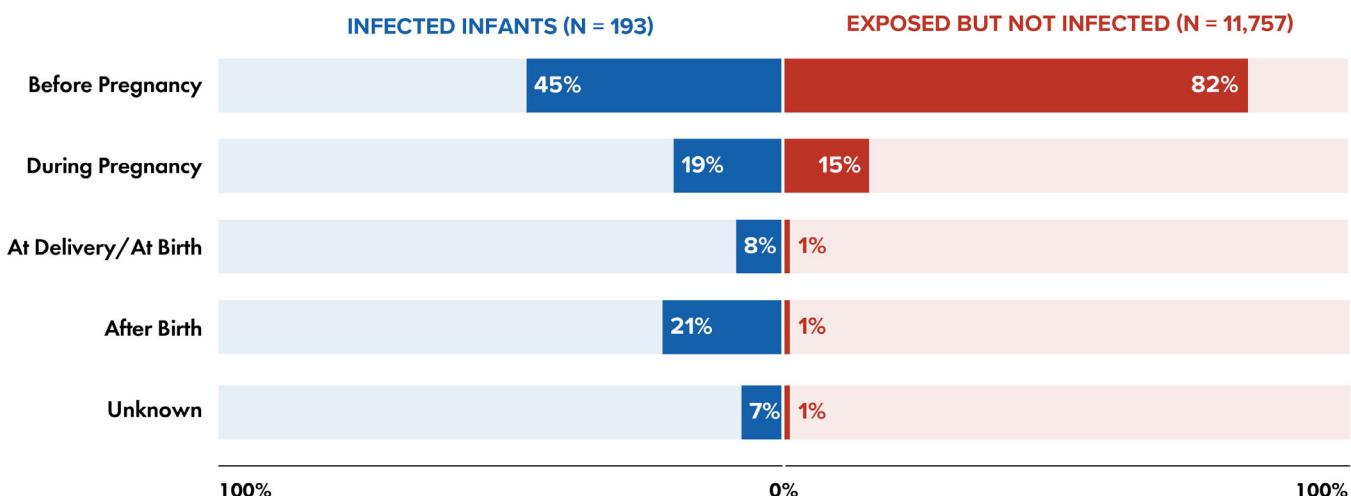
- 8% to mothers tested at the time of birth
- 21% of children with diagnosed, perinatally acquired HIV infection were born to mothers who were tested after the child's birth
- 7% were born to mothers whose time of maternal HIV testing was unknown

Exposed but not infected (Figure 30): From 2016 through 2019 in the United States and Puerto Rico, among the 11,757 children born who were exposed but not perinatally infected with HIV, time of maternal HIV testing was as follows:

- 82% were born to mothers who were tested before pregnancy
- 15% were born to mothers who were tested during pregnancy
- 1% to mothers tested at the time of birth
- 1% to mothers tested after birth
- 1% were born to mothers whose time of maternal HIV testing was unknown

Note. The number of areas contributing exposure data varied by year. Because not all jurisdictions have exposure reporting in place, the number presented is likely a minimum count of the number of exposed infants in the United States and Puerto Rico.

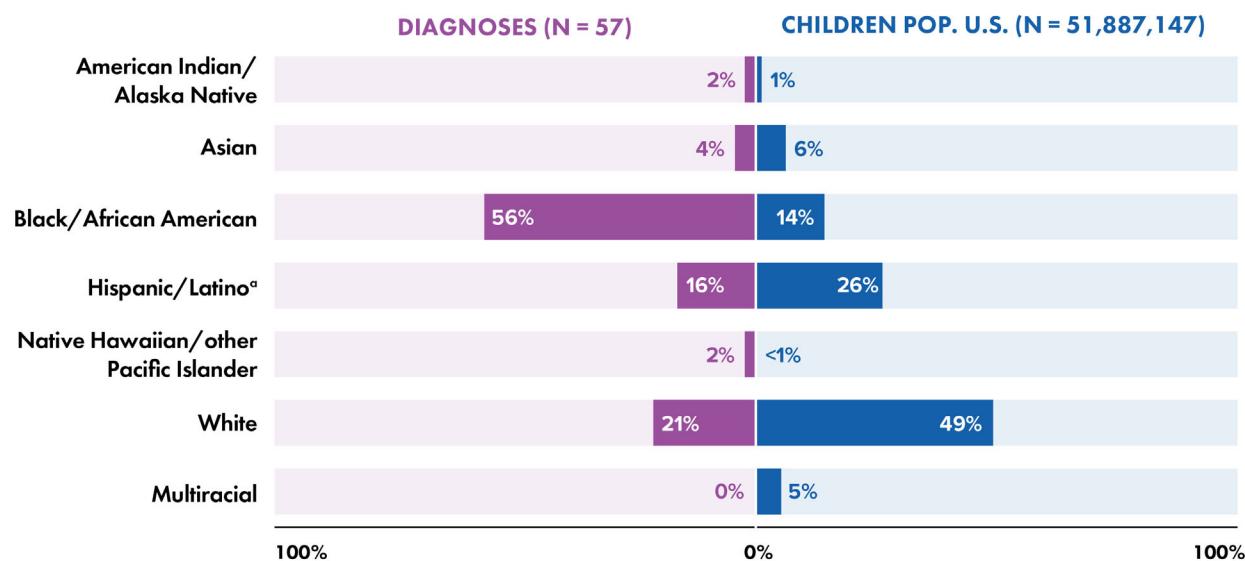
Figure 30. Time of maternal HIV testing among children with diagnosed perinatally acquired HIV infection and children exposed to HIV, birth years 2016–2019—United States and Puerto Rico



Diagnoses (Figure 31): In 2020, among children in the United States,

- Black/African American children made up approximately 14% of the population of children but accounted for 56% of diagnoses of HIV infection.
- Hispanic/Latino children made up 26% of the population of children but accounted for 16% of diagnoses.
- White children made up 49% of the population of children but accounted for 21% of diagnoses.

Figure 31. Percentages of diagnoses of HIV infection among children, by race/ethnicity, 2020 (COVID-19 pandemic)—United States and 6 dependent areas



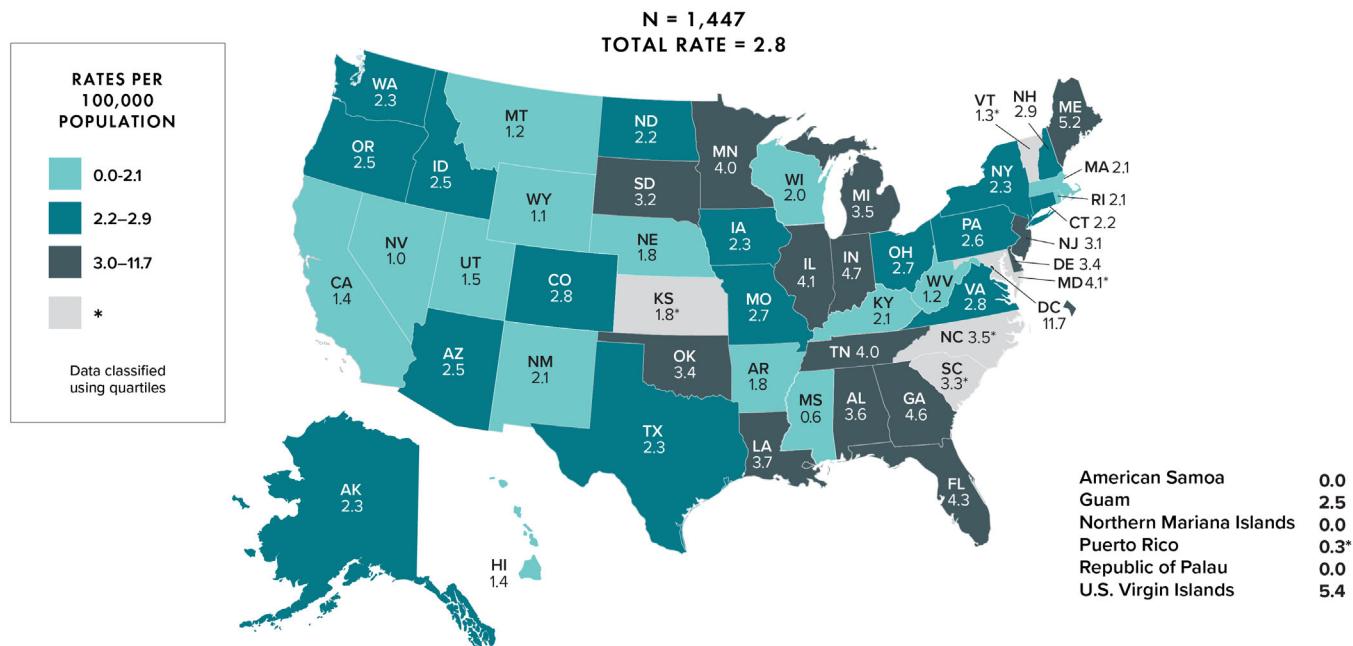
Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Hispanic/Latino persons can be of any race.

- **Prevalence, children (Figure 32):**

- At year-end 2020 in the United States and 6 dependent areas, approximately 1,447 children were living with diagnosed HIV infection.
- The overall rate of persons living with diagnosed HIV infection was 2.8.

Figure 32. Rates of children living with diagnosed HIV infection, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data are based on address of residence as of December 31, 2020 (i.e., most recent known address). Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Asterisk (*) indicates incomplete reporting.

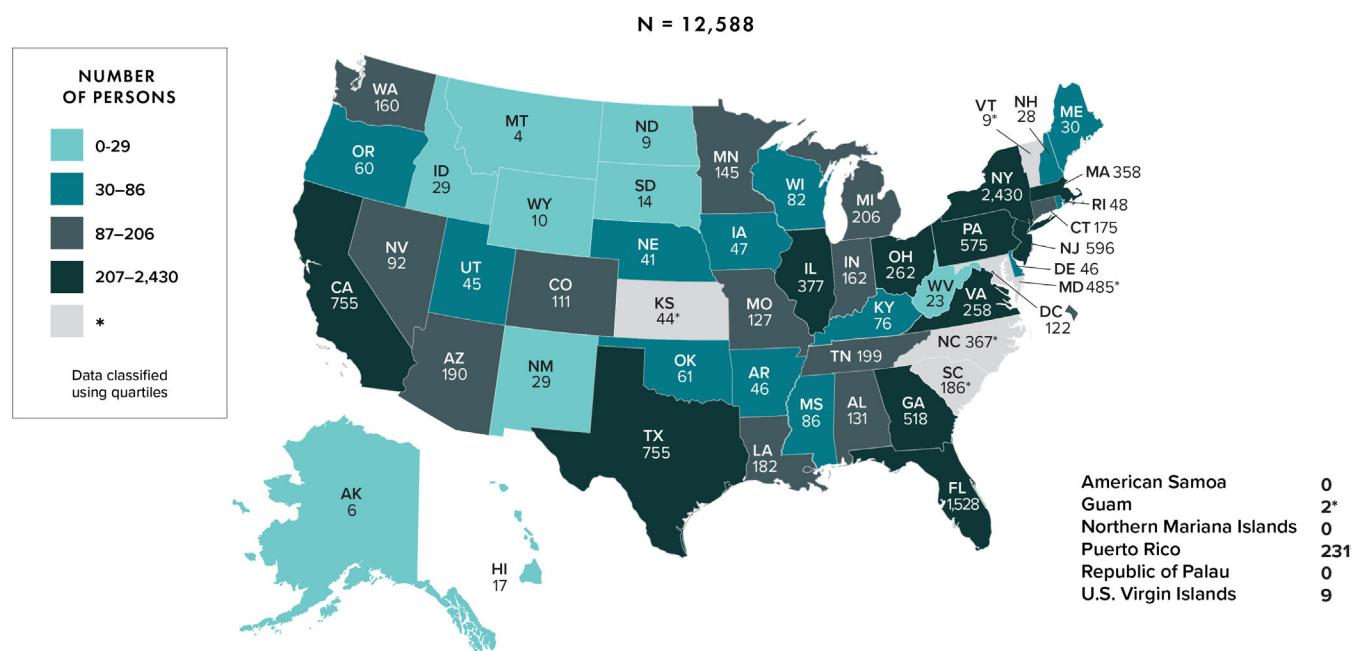
- **Prevalence and race/ethnicity, children (Table 16b):**

- American Indian/Alaska Native: <1%
- Asian: 7%
- Black/African American: 58%
- Hispanic/Latino: 13%
- Native Hawaiian/other Pacific Islander: <1%
- White: 13%
- Multiracial: 8%

- **Prevalence, perinatally acquired HIV infection (Figure 33):**

- At year-end 2020 in the United States and 6 dependent areas, there were 12,588 persons living with diagnosed, perinatally acquired HIV infection.
- Data reflect all persons (i.e., children, adolescents, and adults) with diagnosed, perinatally acquired HIV infection who were alive at year-end 2020, regardless of their age at year-end 2020.

Figure 33. Persons living with diagnosed, perinatally acquired HIV infection, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas



Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data are based on address of residence as of December 31, 2020 (i.e., most recent known address). Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Asterisk (*) indicates incomplete reporting.

- **Prevalence and race/ethnicity, perinatally acquired HIV infection (Table 16b):**
 - American Indian/Alaska Native: <1%
 - Asian: 1%
 - Black/African American: 57%
 - Hispanic/Latino: 24%
 - Native Hawaiian/other Pacific Islander: <1%
 - White: 11%
 - Multiracial: 7%

Technical Notes



A. SURVEILLANCE OF HIV INFECTION OVERVIEW

This report includes HIV surveillance data through 2020 and reported to CDC's National HIV Surveillance System (NHSS) through December 31, 2021. The data are from 50 states, the District of Columbia, and 6 U.S. dependent areas (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the U.S. Virgin Islands) in which laws or regulations require confidential reporting to the jurisdiction (not to CDC), by name, for all persons (adults, adolescents, and children) with confirmed diagnoses of HIV infection. After the removal of personally identifiable information, data from these reports were submitted to CDC. Although AIDS cases have been reported to CDC since 1981, the date of implementation of HIV infection reporting has differed from jurisdiction to jurisdiction. All states, the District of Columbia, and 6 U.S. dependent areas had fully implemented name-based HIV infection reporting by April 2008.

All data presented in this report are considered provisional (based on a ≥ 12 -month reporting delay) and subject to change as additional reports are submitted for HIV cases and HIV surveillance data quality improves with further evaluation of the surveillance system and data repository. Data are based on a 12-month reporting delay to allow sufficient time for HIV-related laboratory results and deaths to be reported to CDC. Because reporting delays can impact the reliability of data presented in this report, caution should be applied when interpreting the results. Please use caution when interpreting data on diagnoses of HIV infection. HIV surveillance reports may not be representative of all persons with HIV because not all infected persons have been (1) tested or (2) tested at a time when the infection could be detected and diagnosed. Also, some states offer anonymous HIV testing, and some persons complete self-testing at home or in a private location; the results of anonymous tests and of self-tests are not reported to the confidential, name-based HIV registries of state and local health departments [8, 9]. Therefore, reports of confidential test results may not represent all persons who tested positive for HIV infection. In addition, testing patterns are influenced by many factors, including the extent to which testing is routinely offered to specific groups and the availability of, and access to, medical care and testing services. The data presented in this report provide minimum counts of persons for whom HIV infection has been diagnosed and reported to the surveillance system. Although all jurisdictions use a uniform case report form, surveillance practices in data collection and updating of case records may differ among jurisdictions.

Based on annual standard evaluation results [10], the completeness of reporting of HIV infection, as of December 2019, is estimated to be at least 85% in all but 1 jurisdiction. Data re-release agreements between CDC and

state/local HIV surveillance programs require specific levels of cell suppression at the state and county level in order to ensure confidentiality of personally identifiable information.

Caution: Data for the year 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

B. STAGES OF HIV INFECTION—CASE DEFINITIONS

Both the 2008 and 2014 HIV case definitions were used to classify HIV infection among persons aged ≥ 13 years and among children [11, 12]. In the following lists, some bulleted items are paraphrases, not quotations, from the published surveillance case definitions. The intention is to emphasize the differences between the 2008 and 2014 case definitions.

B1. 2008 Case Definition

The 2008 case definition was used to classify cases diagnosed through 2013. For persons aged ≥ 13 years, this definition incorporates an HIV infection staging system that includes AIDS (HIV infection, stage 3). The 2008 stages of HIV infection are defined as follows:

- **HIV infection, stage 1:** No AIDS-defining opportunistic illness (OI) and either CD4+ T-lymphocyte (CD4 lymphocyte) count of ≥ 500 cells/ μ L or CD4 percentage of total lymphocytes of ≥ 29 .
- **HIV infection, stage 2:** No AIDS-defining OI and either CD4 lymphocyte count of 200–499 cells/ μ L or CD4 percentage of total lymphocytes of 14–28.
- **HIV infection, stage 3 (AIDS):** Documentation of an AIDS-defining OI or either a CD4 lymphocyte count of <200 cells/ μ L or CD4 percentage of total lymphocytes of <14 . Documentation of an AIDS-defining OI supersedes a CD4 lymphocyte count or percentage that would not, by itself, be the basis for a stage 3 (AIDS) classification.
- **HIV infection, stage unknown:** No reported information on AIDS-defining OIs and no information available on CD4 lymphocyte count or percentage.

B2. 2014 Case Definition

The 2014 case definition was used to classify cases diagnosed in 2014 and later. It is similar to the 2008 case definition except for the following:

1. inclusion of criteria for stage 0
2. inclusion of CD4 lymphocyte testing criteria for stage 3 in children
3. changes in the cutoffs for CD4 percentage of total lymphocytes used for classification of stages 1 and 2 in persons aged 6 years and older [3]

The stages of HIV infection in the 2014 case definition are based on age-specific CD4 lymphocyte counts or percentages of total lymphocytes and are defined as follows:

- **HIV infection, stage 0:** First positive HIV test result within 6 months after a negative HIV test result. The stage remains stage 0 until 6 months after the first positive test result. After 6 months, the stage may be classified as 1, 2, 3, or unknown if based on a CD4 test result or the diagnosis of an OI. The diagnosis of an AIDS-defining condition or a low CD4 test result before the 6 months have elapsed does not change the stage from stage 0 to stage 3.
- **HIV infection, stages 1, 2, and 3:** Documentation of an AIDS-defining OI (excluding stage 0 as described above) is stage 3. Otherwise, the stage is determined by the lowest CD4 lymphocyte test result:
 - Stage 1—CD4 lymphocyte count of ≥ 500 or a CD4 percentage of total lymphocytes of ≥ 26
 - Stage 2—CD4 lymphocyte count of 200–499 or a CD4 percentage of total lymphocytes of 14–25

- Stage 3—CD4 lymphocyte count of <200 or a CD4 percentage of total lymphocytes of <14 or documentation of an AIDS-defining condition.
- **HIV infection, stage unknown:** No reported information on AIDS-defining OIs and no information available on CD4 lymphocyte count or percentage.

C. TABULATION AND PRESENTATION OF DATA

The data in this report include information received by CDC through December 31, 2021. The data are organized into 2 sections: National Profile and Special Focus Profiles. Tables are presented in 2 formats: (1) the first format—labeled “a”—exclude data from the dependent areas (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the U.S. Virgin Islands), and (2) the second format—labeled “b”—include data from the dependent areas.

Please use caution when interpreting numbers less than 12, and rates and trends based on these numbers.

C1. Definitions and Data Specifications

C1.1 Diagnoses

In this report, the term *diagnosis of HIV infection* is defined as a diagnosis of HIV infection regardless of the stage of disease (stage 0, 1, 2, 3 [AIDS], or unknown) and refers to all persons with a diagnosis of HIV infection.

The data on diagnoses of HIV infection reflect the date of diagnosis (diagnosed by December 31, 2020; reported to NHSS as of December 31, 2021), not the date of report to NHSS. In addition,

- data from all areas are included in figures and tables displaying numbers and rates of diagnoses of HIV infection, by selected characteristics, area of residence, and metropolitan statistical area (MSA) (Figures A, 1–6, 12–31; Tables 1a/b–10a/b, 20, 22, and A1).
- data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.
- tables presenting diagnosis data, region or area of residence reflects the address at the time of HIV diagnosis.
- tables presenting exposure data, only include transgender and AGI persons aged ≥ 13 years at time of diagnosis of HIV infection.

Note. Because of reporting delays, the number of cases diagnosed in a given year may be lower than the numbers presented in later reports; however, fluctuations in the number of diagnoses for a calendar year typically subside after 2 to 3 years of reporting. An evaluation of surveillance data (2015–2019 diagnoses) found that, on average, approximately 75% of HIV diagnoses are reported to CDC during the year of diagnoses and approximately 95% of HIV diagnoses are reported to CDC by the end of the following year.

C1.2 Deaths

Persons reported to NHSS are assumed alive unless their deaths have been reported to CDC. In addition,

- data for the year 2020 are preliminary and based on death data received by CDC as of December 31, 2021.
- deaths of persons with diagnosed HIV infection (Figures 7–9; Tables 11a/b–14a/b) are included regardless of the cause of death, which may not be due to HIV.
- death data are based on a 12-month reporting delay to allow data to be reported to CDC.
- death data by region or area of residence is based on residence at death; when information on residence at death is not available, the state where a person’s death occurred is used.
- due to incomplete reporting of deaths for the year 2020, death data for Guam, Kansas, North Carolina, Puerto Rico, South Carolina, and Vermont should be interpreted with caution.

C1.3 Prevalence

Prevalence data reflect persons living with diagnosed HIV infection, regardless of stage of disease, at year-end 2020 (Figures 10, 11, 32, and 33; Tables 15a/b–22 and A2). In addition,

- data for the year 2020 are preliminary and based on death data received by CDC as of December 31, 2021.
- for tables presenting prevalence data, region or area of residence is based on most recent known address as of the end of the specified year.
- due to incomplete reporting of deaths for the year 2020, prevalence data for Guam, Kansas, North Carolina, Puerto Rico, South Carolina, and Vermont should be interpreted with caution.

C2. Rates

Rates per 100,000 population were calculated for (1) the numbers of diagnoses of HIV infection, (2) the numbers of deaths of persons with diagnosed HIV infection, and (3) the numbers of persons living with diagnosed HIV infection.

Rates were computed as follows:

For the 50 states, the District of Columbia, and Puerto Rico, the population denominators used to compute rates were based on the Vintage 2020 postcensal estimates file from the U.S. Census Bureau [13].

- For American Samoa, Guam, the Northern Mariana Islands, the Republic of Palau, and the U.S. Virgin Islands, the population denominators were based on estimates and projections from the U.S. Census Bureau’s International Data Base [14].
- Each rate was calculated by dividing the total number of diagnoses (or deaths or prevalence) for the calendar year by the population for that calendar year and then multiplying the result by 100,000.
- The denominators used for calculating the rates specific to age, sex at birth, and race/ethnicity were computed by applying the appropriate vintage estimates for age, sex at birth, and race/ethnicity for the 50 states and the District of Columbia [13]. The same method was used to calculate the denominators for Puerto Rico, with the exception of race/ethnicity estimates; these data are not available for Puerto Rico (see Note below).
- For the other 5 U.S. dependent areas, estimates from the U.S. Census Bureau’s International Data Base were used for age- and sex-specific population denominators [14].

Note. CDC currently does not provide subpopulation rates for the following:

- Race/ethnicity for the 6 U.S. dependent areas because the U.S. Census Bureau does not collect information from all dependent areas.
- Gender, transmission categories, and exposure categories because of the absence of denominator data from the U.S. Census Bureau, the source of denominator data used for calculating all rates in this report.

C2.1 Disparity Measures

This report includes absolute and relative measures of disparities. The literature recommends use of at least one absolute and one relative disparity measure to monitor the magnitude and direction of disparities [15]. The absolute rate difference and the relative rate ratio disparity measures were chosen because they are used by federal initiatives—Healthy People 2030, NHAS, and EHE—to measure progress in HIV indicators. In addition,

- absolute disparity measures the simple difference between two rates (i.e., Rate1 – Rate2). The absolute difference measures the magnitude of the difference, which provides some indication of how many lives could be improved if the difference between the two rates were eliminated or reduced (i.e., preventable cases) [16].

- relative disparity measure is the rate ratio between two rates (i.e., Rate1 ÷ Rate2). The relative disparity measures the relative magnitude of the disparity.
- for this report, Rate2 is the reference group and is based on the lowest group rate with more than 5% of cases.

D. DEMOGRAPHIC INFORMATION

D1. Age

For this report, age assignments are based on the following:

- For prevalence data, based on the person’s age as of December 31, 2020.
- For death data, determined by the person’s age at time of death.
- For all other tables, based on the person’s age at the time of HIV diagnosis.

D2. Sex/Gender

D2.1 Sex at birth

Sex designations in this report are based on a person’s sex assigned at birth.

D2.2 Gender

Gender identity refers to a person’s internal understanding of their own gender, or gender with which a person identifies. HIV surveillance personnel collect data on gender identity, when available, from sources such as case report forms submitted by health care or HIV testing providers and medical records, or by matching with other health department databases (e.g., Ryan White program data). In May 2013, CDC issued guidance to state and local programs on methods for collecting data on transgender persons and working with transgender-specific data. However, characterization of HIV infection among transgender persons may require supplemental data from special studies. A person’s transgender status in NHSS is determined based on two variables: sex assigned at birth and current gender identity. Both variables are examined, using a two-step approach, to assess transgender status. *Cisgender* is a term used to indicate that a person’s sex assigned at birth and current gender identity are the same (i.e., a person assigned male at birth and who currently identifies as a man is a cis-gender male).

Categories

- **Male:** a person assigned “male” sex at birth who identifies as male.
- **Female:** a person assigned “female” sex at birth who identifies as female.
- **Transgender woman:** a person assigned “male” sex at birth who identifies as female.
- **Transgender man:** a person assigned “female” sex at birth who identifies as male.
- **Additional gender identity (AGI):** a person assigned “male” or “female” sex at birth who does not identify as male, female, transgender woman, or transgender man. AGI includes “bigender,” “gender queer,” and “two-spirit.”

D3. Race and Ethnicity

In the *Federal Register* [17] for October 30, 1997, the Office of Management and Budget (OMB) announced the Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. Implementation by January 1, 2003, was mandated. At a minimum, data on the following race categories should be collected:

- American Indian or Alaska Native
- Asian
- Black or African American

- Native Hawaiian or other Pacific Islander
- White

Additionally, systems must be able to retain information when multiple race categories are reported. In addition to data on race, data on 2 categories of ethnicity should be collected:

- Hispanic or Latino
- not Hispanic or Latino

The Asian or Pacific Islander category displayed in annual surveillance reports published prior to the 2007 surveillance report was split into 2 categories: (1) Asian and (2) Native Hawaiian or other Pacific Islander. The Asian category (in tables where footnoted) includes the cases in Asian/Pacific Islander persons (referred to as legacy cases) that were reported before the implementation of the new race categories in 2003 (e.g., cases of HIV infection that were diagnosed and reported to CDC before 2003 but that were classified as stage 3 [AIDS] after 2003) and a small percentage of cases that were reported after 2003 but that were reported according to the old race category (Asian/Pacific Islander). In tables of diagnoses of HIV infection during 2016–2020, the Asian category does not include Asian/Pacific Islander cases because these cases were diagnosed after 2003 and were reported to CDC in accordance with OMB’s Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity [17].

This report also presents data for persons for whom multiple race categories are reported (i.e., multiracial). In this report, persons categorized by race were not Hispanic or Latino. The number of persons reported in each race category may, however, include persons whose ethnicity was not reported.

Race and ethnicity are not risk factors but are instead markers for many underlying problems of greater relevance to health, including socioeconomic status and cultural behavior-characteristics, which are social and not biological [18, 19]. Racial and ethnic differences in health are more likely to reflect profound differences in people’s experience based on the relatively advantaged or disadvantaged position in society into which they are born [19, 20]. Social determinant of health factors, shaped by income, education, wealth, and socio-economic conditions, vary systematically by race and ethnicity and are important in explaining differences in health outcomes [20].

D4. Transmission Categories

Transmission category is the term for the classification of cases that summarizes an adult’s or adolescent’s possible HIV risk factors; the summary classification results from selecting, from the presumed hierarchical order of probability, the 1 (single) risk factor most likely to have been responsible for transmission. For surveillance purposes, a diagnosis of HIV infection is counted only once in the hierarchy of transmission categories [21]. Adults or adolescents with more than 1 reported risk factor for HIV infection are classified in the transmission category listed first in the hierarchy. The exception is men who had sexual contact with other men *and* injected drugs; this group makes up a separate transmission category.

Hierarchical Categories

- **Male-to-male sexual contact (MMSC):** includes individuals assigned male sex at birth, regardless of current gender identity, who have had sexual contact with other males, and individuals assigned male sex at birth who have had sexual contact with both males and females (i.e., bisexual contact).
- **Injection drug use (IDU):** includes persons who injected nonprescription drugs or who injected prescription drugs for nonmedical purposes.
- **Male-to-male sexual contact *and* injection drug use (MMSC/IDU):** includes individuals assigned male sex at birth, regardless of current gender identity, who have had sexual contact with other males (or with both males and females [i.e., bisexual contact]) and injected nonprescription drugs or injected prescription drugs for nonmedical purposes.

- **Heterosexual contact:** includes persons who have ever had sexual contact with a person known to have, or with a risk factor for, HIV infection.
- **Perinatal:** includes persons who acquired HIV through mother-to-child transmission.
- **Other:** includes persons with other risk factors (e.g., blood transfusion, hemophilia) or whose risk factor was not reported or not identified.

Cases of HIV infection reported without a risk factor listed in the hierarchy of transmission categories are classified as “no identified risk (NIR).” Cases classified as NIR include cases that are being followed up by local health department staff; cases in persons whose risk-factor information is missing because they died, declined to be interviewed, or were lost to follow-up; and cases in persons who were interviewed or for whom other follow-up information was available but for whom no risk factor was identified.

Because a substantial proportion of cases of HIV infection are reported to CDC without an identified risk factor, multiple imputation is used to assign a transmission category to these cases [21]. Multiple imputation is a statistical approach in which each missing transmission category is replaced with a set of plausible values that represent the uncertainty about the true, but missing, value [22]. Each resulting data set containing the plausible values is analyzed by using standard procedures, and the results from these analyses are then combined to produce the final results. In tables displaying transmission categories, multiple imputation was used for adults and adolescents, but not for children (because the number of cases in children is small, missing transmission categories were not imputed).

D4.2 Exposure category

Exposure category is the term for classifying patient history data (individual risk behaviors or events) by assigning individual risk behaviors or events into mutually exclusive categories. They are meant to convey all the known ways a person could have been exposed to HIV. The exposure category classification was developed as an alternative to the hierarchical transmission category classification. For the presentation of data in this report, exposure category is used for the classification of transgender and AGI persons based on the risk factors that may have been responsible for HIV transmission; classification has no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. The categories are mutually exclusive. Data were not statistically adjusted to account for missing exposure category.

Categories

- **Sexual contact:** includes persons assigned “male” sex at birth, who reported sexual contact with any person. For persons assigned “female” sex at birth, they reported sexual contact with a person assigned “male” sex at birth.
- **Injection drug use (IDU):** includes persons who inject nonprescription drugs or who injected prescription drugs for nonmedical purposes.
- **Sexual contact and IDU:** includes persons assigned “male” sex at birth, who reported sexual contact with any person and injected nonprescription drugs or injected prescription drugs for nonmedical purposes. For persons assigned “female” sex at birth, they reported sexual contact with a person assigned “male” sex at birth and injected nonprescription drugs or injected prescription drugs for nonmedical purposes.
- **Perinatal:** includes persons who acquired HIV through mother-to-child transmission.
- **Other:** includes persons with other risk factors (e.g., blood transfusion, hemophilia) or whose risk factor was not reported or not identified.

Cases of HIV infection reported without a risk factor listed for exposure categories are classified as “no identified risk (NIR).” Cases classified as NIR include cases that are being followed up by local health department staff; cases in persons whose risk factor information is missing because they declined to be interviewed, were lost to follow-up, or died; and cases in persons who were interviewed or for whom other follow-up information was available but for whom no risk factor was identified.

E. GEOGRAPHIC DESIGNATION

E1. U.S. Census Regions

Data by region reflect the following:

- For diagnoses, region is based on address at the time of diagnosis of HIV infection (Figures 4, 12, 14, 15, 17, 18, 23, 25, 26, 28; Tables 1a/b–8a/b).
- For prevalence, region is based on most recent known address as of the end of the specified year (Tables 15a/b–19a/b).
- For deaths, region is based on residence at death. When information on residence at death is not available, the state where a person’s death occurred is used (Figure 8; Tables 11a/b–14a/b).

The 4 regions of residence and 6 dependent areas used in this report are defined by the U.S. Census Bureau as follows:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

U.S. dependent areas: American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the U.S. Virgin Islands

E2. Metropolitan Statistical Areas

In the *Federal Register* for July 16, 2021, OMB published revised standards for defining MSAs in federal statistical activities [23]. These standards, which provided for the identification of MSAs in the United States and Puerto Rico, replaced the 2010 standards. The adoption of the new standards was effective as of July 16, 2021. On March 6, 2020, OMB announced new MSA delineations based on the new standards and Census 2010 data [24]. Table 22 (data on diagnosed HIV infection and prevalence of diagnosed HIV infection) present numbers and rates of diagnoses and prevalence, by MSA, for areas with populations of 500,000 or more. The MSAs listed in these tables were defined according to OMB’s most recent update (March 2020) of statistical areas [24].

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ADDITIONAL RESOURCES

The following were prepared by using HIV surveillance data:

- MMWR articles (selected): <http://www.cdc.gov/hiv/library/reports/mmwr.html>
- Other surveillance reports: <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>
- Public-use slides updated annually: <http://www.cdc.gov/hiv/library/slidesets/>
- NCHHSTP AtlasPlus [interactive tool for accessing HIV, STD, TB, and hepatitis data]: <http://www.cdc.gov/nchhstp/atlas/>

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Table 1a. Diagnoses of HIV infection, by year of diagnosis and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	31,332	—	30,461	—	29,730	—	28,948	—	24,269	—
Female	7,512	—	7,300	—	7,084	—	6,917	—	5,439	—
Transgender woman/girl ^b	675	—	612	—	627	—	652	—	638	—
Transgender man/boy ^b	22	—	33	—	48	—	45	—	40	—
Additional gender identity ^c	11	—	15	—	15	—	23	—	17	—
Age at diagnosis (yr)										
<13	130	0.2	105	0.2	87	0.2	57	0.1	57	0.1
13–14	26	0.3	25	0.3	20	0.2	21	0.3	12	0.1
15–19	1,715	8.1	1,786	8.5	1,719	8.2	1,648	7.8	1,248	6.0
20–24	6,915	30.9	6,466	29.3	6,109	28.0	5,969	27.6	4,822	22.3
25–29	7,947	34.6	7,723	33.1	7,711	32.7	7,402	31.4	6,061	26.1
30–34	5,641	25.8	5,672	25.8	5,673	25.6	5,673	25.3	5,197	22.8
35–39	4,210	20.3	4,260	20.1	4,209	19.5	4,140	19.0	3,409	15.6
40–44	3,245	16.5	2,980	15.2	2,971	15.1	2,974	14.9	2,515	12.4
45–49	3,046	14.6	2,930	14.0	2,780	13.4	2,575	12.6	2,072	10.4
50–54	2,856	13.1	2,637	12.4	2,455	11.8	2,312	11.3	1,857	9.1
55–59	1,882	8.6	1,872	8.5	1,843	8.4	1,832	8.4	1,575	7.3
60–64	1,080	5.6	1,083	5.4	1,046	5.2	1,107	5.4	885	4.3
≥65	859	1.7	882	1.7	881	1.7	875	1.6	693	1.2
Race/ethnicity										
American Indian/Alaska Native	216	9.1	200	8.3	173	7.2	205	8.5	201	8.3
Asian	931	5.2	930	5.1	868	4.6	739	3.9	637	3.3
Black/African American	16,799	41.7	16,279	40.1	15,786	38.6	15,503	37.6	12,856	31.0
Hispanic/Latino ^d	10,101	17.6	9,941	17.0	9,956	16.7	9,896	16.4	8,008	13.1
Native Hawaiian/other Pacific Islander	38	6.7	51	8.8	61	10.3	66	10.9	66	10.8
White	9,885	5.0	9,643	4.9	9,448	4.8	9,070	4.6	7,843	4.0
Multiracial	1,582	23.2	1,377	19.7	1,212	16.9	1,106	15.0	792	10.5
Transmission category^e										
Male sex at birth (≥13 yrs at diagnosis)^f										
Male-to-male sexual contact	25,948	—	25,346	—	24,545	—	23,975	—	20,572	—
Injection drug use	1,189	—	1,292	—	1,407	—	1,381	—	1,178	—
Male-to-male sexual contact and injection drug use	1,539	—	1,470	—	1,465	—	1,524	—	1,105	—
Heterosexual contact ^g	3,251	—	2,902	—	2,877	—	2,669	—	2,012	—
Perinatal ^h	10	—	14	—	16	—	20	—	9	—
Other ⁱ	15	—	17	—	21	—	19	—	20	—
Subtotal	31,952	24.2	31,041	23.3	30,331	22.6	29,589	21.9	24,897	18.3
Female sex at birth (≥13 yrs at diagnosis)^f										
Injection drug use	1,034	—	1,086	—	1,105	—	1,154	—	855	—
Heterosexual contact ^g	6,380	—	6,131	—	5,928	—	5,730	—	4,536	—
Perinatal ^h	48	—	51	—	46	—	47	—	51	—
Other ⁱ	8	—	7	—	7	—	7	—	7	—
Subtotal	7,470	5.4	7,275	5.2	7,086	5.1	6,939	4.9	5,449	3.8
Child (<13 yrs at diagnosis)										
Perinatal	107	—	88	—	68	—	46	—	44	—
Other ⁱ	23	—	17	—	19	—	11	—	13	—
Subtotal	130	0.2	105	0.2	87	0.2	57	0.1	57	0.1
Region of residence^j										
Northeast	6,211	11.1	5,987	10.7	5,565	9.9	5,312	9.5	4,271	7.6
Midwest	5,172	7.6	5,115	7.5	4,940	7.2	4,748	6.9	4,127	6.0
South	20,274	16.6	19,725	16.0	19,412	15.6	19,181	15.3	15,689	12.4
West	7,895	10.3	7,594	9.8	7,587	9.7	7,344	9.4	6,316	8.0
Total	39,552	12.2	38,421	11.8	37,504	11.5	36,585	11.1	30,403	9.2

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission or exposure category because of the lack of denominator data.

^b "Transgender woman" includes individuals who were assigned "male" sex at birth but have ever identified as "female" gender. "Transgender man" includes individuals who were assigned "female" sex at birth but have ever identified as "male" gender. Transgender men and women are adults or adolescents aged ≥ 13 years.

^c Additional gender identity examples include "bigender," "gender queer," and "two-spirit."

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Data include transgender and additional gender identity persons.

^g Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^h Individuals were aged ≥13 years at time of diagnosis of HIV infection.

ⁱ Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^j Data are based on residence at time of diagnosis of HIV infection.

Table 1b. Diagnoses of HIV infection, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	31,774	—	30,825	—	30,098	—	29,277	—	24,515	—
Female	7,617	—	7,394	—	7,164	—	6,998	—	5,480	—
Transgender woman/girl ^b	678	—	614	—	629	—	654	—	640	—
Transgender man/boy ^b	22	—	33	—	49	—	45	—	40	—
Additional gender identity ^c	11	—	15	—	15	—	23	—	17	—
Age at diagnosis (yr)										
<13	130	0.2	105	0.2	87	0.2	57	0.1	57	0.1
13–14	26	0.3	25	0.3	20	0.2	21	0.2	12	0.1
15–19	1,725	8.1	1,798	8.4	1,736	8.1	1,654	7.8	1,256	5.9
20–24	6,988	30.9	6,532	29.3	6,171	28.0	6,026	27.5	4,867	22.3
25–29	8,018	34.6	7,786	33.0	7,788	32.7	7,461	31.4	6,103	26.0
30–34	5,706	25.9	5,734	25.9	5,731	25.7	5,730	25.3	5,233	22.7
35–39	4,280	20.4	4,312	20.1	4,243	19.5	4,179	19.0	3,445	15.6
40–44	3,302	16.6	3,015	15.2	3,012	15.1	3,013	15.0	2,540	12.4
45–49	3,105	14.7	2,971	14.1	2,824	13.5	2,612	12.7	2,094	10.4
50–54	2,901	13.2	2,687	12.5	2,504	11.9	2,342	11.3	1,883	9.1
55–59	1,930	8.7	1,907	8.6	1,871	8.4	1,869	8.5	1,599	7.3
60–64	1,107	5.6	1,106	5.5	1,066	5.2	1,131	5.4	901	4.3
≥65	884	1.8	903	1.8	902	1.7	902	1.6	702	1.2
Race/ethnicity										
American Indian/Alaska Native	216	—	200	—	173	—	205	—	201	—
Asian	932	—	933	—	872	—	746	—	637	—
Black/African American	16,805	—	16,283	—	15,794	—	15,508	—	12,859	—
Hispanic/Latino ^d	10,636	—	10,387	—	10,388	—	10,287	—	8,294	—
Native Hawaiian/other Pacific Islander	43	—	52	—	63	—	70	—	66	—
White	9,887	—	9,648	—	9,451	—	9,075	—	7,843	—
Multiracial	1,583	—	1,378	—	1,214	—	1,106	—	792	—
Transmission category^e										
Male sex at birth (≥13 yrs at diagnosis)^f										
Male-to-male sexual contact	26,244	—	25,580	—	24,810	—	24,204	—	20,758	—
Injection drug use	1,225	—	1,326	—	1,431	—	1,406	—	1,198	—
Male-to-male sexual contact and injection drug use	1,551	—	1,483	—	1,477	—	1,536	—	1,109	—
Heterosexual contact ^g	3,353	—	2,987	—	2,947	—	2,734	—	2,051	—
Perinatal ^h	10	—	14	—	16	—	20	—	9	—
Other ⁱ	15	—	17	—	21	—	19	—	20	—
Subtotal	32,397	24.2	31,407	23.3	30,701	22.6	29,920	21.9	25,145	18.3
Female sex at birth (≥13 yrs at diagnosis)^f										
Injection drug use	1,046	—	1,095	—	1,107	—	1,160	—	857	—
Heterosexual contact ^g	6,473	—	6,216	—	6,008	—	5,805	—	4,575	—
Perinatal ^h	48	—	51	—	46	—	47	—	51	—
Other ⁱ	8	—	7	—	7	—	7	—	7	—
Subtotal	7,575	5.4	7,369	5.2	7,167	5.1	7,020	4.9	5,490	3.8
Child (<13 yrs at diagnosis)										
Perinatal	107	—	88	—	68	—	46	—	44	—
Other ⁱ	23	—	17	—	19	—	11	—	13	—
Subtotal	130	0.2	105	0.2	87	0.2	57	0.1	57	0.1
Region of residence^j										
Northeast	6,211	11.1	5,987	10.7	5,565	9.9	5,312	9.5	4,271	7.6
Midwest	5,172	7.6	5,115	7.5	4,940	7.2	4,748	6.9	4,127	6.0
South	20,274	16.6	19,725	16.0	19,412	15.6	19,181	15.3	15,689	12.4
West	7,895	10.3	7,594	9.8	7,587	9.7	7,344	9.4	6,316	8.0
U.S. dependent areas	550	14.4	460	12.4	451	12.6	412	11.5	289	8.1
Total	40,102	12.3	38,881	11.8	37,955	11.5	36,997	11.1	30,692	9.2

Note. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data. Rates by race/ethnicity are not provided because U.S. census information is limited for U.S. dependent areas.

^b “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^c Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Data include transgender and additional gender identity persons.

^g Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^h Individuals were aged ≥13 years at time of diagnosis of HIV infection.

ⁱ Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^j Data are based on residence at time of diagnosis of HIV infection.

Table 2a. Diagnoses of HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States

	American Indian/ Alaska Native		Asian		Black/African American		Hispanic/ Latino ^a		Native Hawaiian/ other Pacific Islander		White	Multiracial	Total			
											No.	Rate ^b	No.	Rate ^b	No.	Rate ^b
	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b
Gender																
Male	149	—	532	—	9,558	—	6,885	—	48	—	6,471	—	626	—	24,269	—
Female	44	—	88	—	2,970	—	907	—	15	—	1,281	—	134	—	5,439	—
Transgender woman/girl ^c	8	—	16	—	309	—	202	—	3	—	72	—	28	—	638	—
Transgender man/boy ^c	0	—	0	—	11	—	10	—	0	—	15	—	4	—	40	—
Additional gender identity ^d	0	—	1	—	8	—	4	—	0	—	4	—	0	—	17	—
Age at diagnosis (yr)																
<13	1	0.2	2	0.1	32	0.4	9	0.1	1	0.9	12	0.0	0	0.0	57	0.1
13–14	0	0.0	0	0.0	8	0.7	4	0.2	0	0.0	0	0.0	0	0.0	12	0.1
15–19	5	2.8	19	1.7	735	25.7	294	5.8	4	9.6	149	1.4	42	5.4	1,248	6.0
20–24	28	15.4	68	5.5	2,544	83.7	1,231	25.1	8	18.6	792	6.9	151	21.8	4,822	22.3
25–29	36	18.2	144	9.4	2,646	77.0	1,707	34.4	15	30.2	1,336	10.7	177	29.1	6,061	26.1
30–34	35	19.3	111	6.6	2,159	68.3	1,447	31.0	10	18.7	1,323	10.5	112	23.9	5,197	22.8
35–39	30	18.7	72	4.4	1,232	44.1	996	22.1	10	20.0	976	7.9	93	24.1	3,409	15.6
40–44	25	17.2	55	3.8	882	33.9	745	17.6	6	14.0	734	6.4	68	21.0	2,515	12.4
45–49	11	7.8	58	4.1	737	29.2	524	13.6	4	10.6	682	5.8	56	20.2	2,072	10.4
50–54	16	11.2	41	3.3	640	25.4	466	13.8	3	8.4	656	5.1	35	14.3	1,857	9.1
55–59	7	4.5	24	2.1	602	23.2	298	10.2	3	8.6	615	4.2	26	11.1	1,575	7.3
60–64	4	2.8	22	2.2	363	15.2	173	7.4	2	6.6	301	2.1	20	9.5	885	4.3
≥65	3	0.9	21	0.8	276	5.3	114	2.3	0	0.0	267	0.6	12	2.6	693	1.2
Transmission category^e																
Male sex at birth (≥13 yrs at diagnosis)^f																
Male-to-male sexual contact	126	—	491	—	8,062	—	6,176	—	42	—	5,126	—	550	—	20,572	—
Injection drug use	8	—	14	—	313	—	261	—	3	—	539	—	42	—	1,178	—
Male-to-male sexual contact and injection drug use	20	—	12	—	230	—	256	—	3	—	545	—	38	—	1,105	—
Heterosexual contact ^g	3	—	30	—	1,240	—	390	—	2	—	325	—	24	—	2,012	—
Perinatal ^h	0	—	0	—	8	—	0	—	0	—	1	—	0	—	9	—
Other ⁱ	0	—	2	—	8	—	3	—	0	—	6	—	0	—	20	—
Subtotal	157	16.0	549	7.1	9,859	60.9	7,086	29.4	50	19.9	6,542	7.8	654	26.8	24,897	18.3
Female sex at birth (≥13 yrs at diagnosis)^f																
Injection drug use	20	—	6	—	250	—	134	—	2	—	422	—	21	—	855	—
Heterosexual contact ^g	23	—	79	—	2,674	—	773	—	12	—	858	—	116	—	4,536	—
Perinatal ^h	0	—	1	—	40	—	5	—	0	—	5	—	1	—	51	—
Other ⁱ	0	—	1	—	1	—	1	—	0	—	4	—	0	—	7	—
Subtotal	43	4.2	86	1.0	2,965	16.4	913	3.8	15	6.0	1,289	1.5	138	5.3	5,449	3.8
Child (<13 yrs at diagnosis)																
Perinatal	0	—	0	—	26	—	8	—	1	—	9	—	0	—	44	—
Other ⁱ	1	—	2	—	6	—	1	—	0	—	3	—	0	—	13	—
Subtotal	1	0.2	2	0.1	32	0.4	9	0.1	1	0.9	12	0.0	0	0.0	57	0.1
Region of residence^j																
Northeast	7	5.4	93	2.4	1,721	27.2	1,340	16.0	4	17.7	972	2.7	134	13.2	4,271	7.6
Midwest	32	7.7	75	3.1	1,980	27.5	515	9.1	5	12.9	1,396	2.7	124	8.6	4,127	6.0
South	49	6.0	151	3.2	8,081	33.3	3,435	14.6	13	12.9	3,566	5.0	394	15.6	15,689	12.4
West	113	10.5	318	3.8	1,074	29.6	2,718	11.4	44	9.8	1,909	4.9	140	5.5	6,316	8.0
Total	201	8.3	637	3.3	12,856	31.0	8,008	13.1	66	10.8	7,843	4.0	792	10.5	30,403	9.2

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Hispanic/Latino persons can be of any race.

^b Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^c “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^d Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Data presented include transgender and additional gender identity persons.

^g Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^h Individuals were aged ≥13 years at time of diagnosis of HIV infection.

ⁱ Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^j Data are based on residence at time of diagnosis of HIV infection.

Table 2b. Diagnoses of HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

	American Indian/ Alaska Native No.	Asian No.	Black/African American No.	Hispanic/ Latino ^a No.	Native Hawaiian/ other Pacific Islander No.	White No.	Multiracial No.	Total No.
Gender								
Male	149	532	9,561	7,128	48	6,471	626	24,515
Female	44	88	2,970	948	15	1,281	134	5,480
Transgender woman/girl ^b	8	16	309	204	3	72	28	640
Transgender man/boy ^b	0	0	11	10	0	15	4	40
Additional gender identity ^c	0	1	8	4	0	4	0	17
Age at diagnosis (yr)								
<13	1	2	32	9	1	12	0	57
13–14	0	0	8	4	0	0	0	12
15–19	5	19	737	300	4	149	42	1,256
20–24	28	68	2,544	1,276	8	792	151	4,867
25–29	36	144	2,646	1,749	15	1,336	177	6,103
30–34	35	111	2,160	1,482	10	1,323	112	5,233
35–39	30	72	1,232	1,032	10	976	93	3,445
40–44	25	55	882	770	6	734	68	2,540
45–49	11	58	737	546	4	682	56	2,094
50–54	16	41	640	492	3	656	35	1,883
55–59	7	24	602	322	3	615	26	1,599
60–64	4	22	363	189	2	301	20	901
≥65	3	21	276	123	0	267	12	702
Transmission category^d								
Male sex at birth (≥ 13 yrs at diagnosis)^e								
Male-to-male sexual contact	126	491	8,064	6,359	42	5,126	550	20,758
Injection drug use	8	14	313	280	3	539	42	1,198
Male-to-male sexual contact and injection drug use	20	12	230	261	3	545	38	1,109
Heterosexual contact ^f	3	30	1,241	427	2	325	24	2,051
Perinatal ^g	0	0	8	0	0	1	0	9
Other ^h	0	2	8	3	0	6	0	20
Subtotal	157	549	9,862	7,331	50	6,542	654	25,145
Female sex at birth (≥ 13 yrs at diagnosis)^e								
Injection drug use	20	6	250	136	2	422	21	857
Heterosexual contact ^f	23	79	2,674	812	12	858	116	4,575
Perinatal ^g	0	1	40	5	0	5	1	51
Other ^h	0	1	1	1	0	4	0	7
Subtotal	43	86	2,965	954	15	1,289	138	5,490
Child (<13 yrs at diagnosis)								
Perinatal	0	0	26	8	1	9	0	44
Other ^h	1	2	6	1	0	3	0	13
Subtotal	1	2	32	9	1	12	0	57
Region of residenceⁱ								
Northeast	7	93	1,721	1,340	4	972	134	4,271
Midwest	32	75	1,980	515	5	1,396	124	4,127
South	49	151	8,081	3,435	13	3,566	394	15,689
West	113	318	1,074	2,718	44	1,909	140	6,316
U.S. dependent areas	0	0	3	286	0	0	0	289
Total	201	637	12,859	8,294	66	7,843	792	30,692

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12 should be interpreted with caution.

^a Hispanic/Latino persons can be of any race.

^b “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^c Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^d Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^e Data presented include transgender and additional gender identity persons.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on residence at time of diagnosis of HIV infection.

Table 3a. Diagnoses of HIV infection among persons aged ≥13 years, by year of diagnosis, sex assigned at birth, and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at diagnosis (yr)										
13–14	10	0.2	13	0.3	11	0.3	12	0.3	6	0.1
15–19	1,467	13.6	1,536	14.2	1,476	13.7	1,444	13.4	1,091	10.2
20–24	6,173	53.7	5,691	50.3	5,389	48.2	5,242	47.4	4,264	38.6
25–29	6,898	59.1	6,745	56.7	6,759	56.3	6,455	53.7	5,288	44.5
30–34	4,608	41.9	4,659	42.0	4,719	42.2	4,713	41.4	4,386	37.9
35–39	3,249	31.3	3,339	31.5	3,282	30.4	3,235	29.7	2,708	24.8
40–44	2,475	25.3	2,238	23.0	2,185	22.3	2,218	22.4	1,947	19.3
45–49	2,273	21.9	2,165	20.9	2,058	20.1	1,897	18.8	1,521	15.4
50–54	2,133	19.9	1,979	18.9	1,796	17.5	1,685	16.7	1,400	13.9
55–59	1,308	12.3	1,313	12.3	1,299	12.2	1,321	12.4	1,155	11.0
60–64	734	7.9	751	7.9	723	7.4	757	7.7	616	6.2
≥65	624	2.9	612	2.7	634	2.7	610	2.5	515	2.1
Race/ethnicity										
American Indian/Alaska Native	175	18.5	155	16.2	144	14.9	159	16.3	157	16.0
Asian	776	10.9	806	11.0	759	10.1	637	8.3	549	7.1
Black/African American	12,345	79.3	11,944	75.9	11,718	73.7	11,604	72.3	9,859	60.9
Hispanic/Latino ^c	8,890	40.2	8,750	38.6	8,747	37.8	8,708	36.9	7,086	29.4
Native Hawaiian/other Pacific Islander	32	13.8	43	18.1	56	23.1	57	23.1	50	19.9
White	8,438	10.0	8,203	9.8	7,958	9.5	7,550	9.0	6,542	7.8
Multiracial	1,296	60.9	1,140	51.7	949	41.6	874	37.0	654	26.8
Region of residence^d										
Northeast	4,805	20.8	4,648	20.1	4,337	18.8	4,157	18.0	3,372	14.6
Midwest	4,202	15.1	4,149	14.8	4,004	14.3	3,776	13.4	3,382	12.0
South	16,081	32.4	15,591	31.1	15,411	30.4	15,304	29.9	12,650	24.5
West	6,864	21.7	6,653	20.8	6,579	20.4	6,352	19.5	5,493	16.7
Subtotal	31,952	24.2	31,041	23.3	30,331	22.6	29,589	21.9	24,897	18.3
Female sex at birth^b										
Age at diagnosis (yr)										
13–14	16	0.4	12	0.3	9	0.2	9	0.2	6	0.1
15–19	248	2.4	250	2.4	243	2.4	204	2.0	157	1.5
20–24	742	6.8	775	7.2	720	6.8	727	6.9	558	5.3
25–29	1,049	9.3	978	8.5	952	8.3	947	8.2	773	6.8
30–34	1,033	9.5	1,013	9.3	954	8.7	960	8.7	811	7.2
35–39	961	9.2	921	8.7	927	8.6	905	8.3	701	6.4
40–44	770	7.8	742	7.5	786	7.9	756	7.5	568	5.6
45–49	773	7.3	765	7.3	722	6.9	678	6.6	551	5.5
50–54	723	6.5	658	6.1	659	6.2	627	6.0	457	4.4
55–59	574	5.1	559	5.0	544	4.8	511	4.5	420	3.8
60–64	346	3.4	332	3.2	323	3.1	350	3.3	269	2.5
≥65	235	0.9	270	1.0	247	0.8	265	0.9	178	0.6
Race/ethnicity										
American Indian/Alaska Native	41	4.1	45	4.5	29	2.9	45	4.4	43	4.2
Asian	147	1.8	117	1.4	103	1.2	96	1.1	86	1.0
Black/African American	4,378	25.1	4,279	24.3	4,018	22.6	3,867	21.6	2,965	16.4
Hispanic/Latino ^c	1,193	5.5	1,175	5.3	1,198	5.2	1,181	5.1	913	3.8
Native Hawaiian/other Pacific Islander	6	2.6	7	3.0	5	2.1	9	3.7	15	6.0
White	1,427	1.6	1,425	1.6	1,475	1.7	1,513	1.7	1,289	1.5
Multiracial	278	12.2	227	9.7	258	10.6	228	9.1	138	5.3
Region of residence^d										
Northeast	1,393	5.6	1,329	5.4	1,220	4.9	1,148	4.6	890	3.6
Midwest	939	3.2	947	3.3	923	3.2	964	3.3	736	2.5
South	4,128	7.9	4,071	7.7	3,953	7.4	3,845	7.1	3,011	5.5
West	1,010	3.1	928	2.9	990	3.0	982	3.0	812	2.4
Subtotal	7,470	5.4	7,275	5.2	7,086	5.1	6,939	4.9	5,449	3.8
Total	39,422	14.6	38,316	14.1	37,417	13.6	36,528	13.2	30,346	10.9

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population.

^b Data include transgender and additional gender identity persons.

^c Hispanic/Latino persons can be of any race.

^d Data are based on residence at time of diagnosis of HIV infection.

Table 3b. Diagnoses of HIV infection among persons aged ≥13 years, by year of diagnosis, sex assigned at birth, and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at diagnosis (yr)										
13–14	10	0.2	13	0.3	11	0.3	12	0.3	6	0.1
15–19	1,475	13.5	1,544	14.1	1,491	13.7	1,450	13.3	1,099	10.2
20–24	6,240	53.7	5,752	50.2	5,442	48.2	5,294	47.3	4,305	38.6
25–29	6,963	59.0	6,797	56.5	6,829	56.3	6,508	53.6	5,327	44.4
30–34	4,664	42.0	4,714	42.1	4,771	42.3	4,761	41.5	4,421	37.9
35–39	3,302	31.5	3,379	31.6	3,311	30.4	3,269	29.7	2,741	24.8
40–44	2,516	25.5	2,266	23.1	2,218	22.4	2,244	22.4	1,966	19.3
45–49	2,317	22.1	2,191	20.9	2,088	20.2	1,924	18.9	1,538	15.4
50–54	2,169	20.0	2,017	19.0	1,834	17.7	1,708	16.8	1,420	14.0
55–59	1,342	12.5	1,336	12.4	1,319	12.2	1,345	12.5	1,172	11.0
60–64	753	8.0	769	8.0	738	7.5	776	7.8	629	6.2
≥65	646	2.9	629	2.8	649	2.8	629	2.6	521	2.1
Race/ethnicity										
American Indian/Alaska Native	175	—	155	—	144	—	159	—	157	—
Asian	777	—	809	—	763	—	644	—	549	—
Black/African American	12,351	—	11,946	—	11,726	—	11,608	—	9,862	—
Hispanic/Latino ^c	9,320	—	9,106	—	9,098	—	9,020	—	7,331	—
Native Hawaiian/other Pacific Islander	37	—	44	—	58	—	60	—	50	—
White	8,440	—	8,206	—	7,961	—	7,555	—	6,542	—
Multiracial	1,297	—	1,141	—	951	—	874	—	654	—
Region of residence^d										
Northeast	4,805	20.8	4,648	20.1	4,337	18.8	4,157	18.0	3,372	14.6
Midwest	4,202	15.1	4,149	14.8	4,004	14.3	3,776	13.4	3,382	12.0
South	16,081	32.4	15,591	31.1	15,411	30.4	15,304	29.9	12,650	24.5
West	6,864	21.7	6,653	20.8	6,579	20.4	6,352	19.5	5,493	16.7
U.S. dependent areas	445	29.0	366	24.2	370	25.1	331	22.4	248	16.9
Subtotal	32,397	24.2	31,407	23.3	30,701	22.6	29,920	21.9	25,145	18.3
Female sex at birth^b										
Age at diagnosis (yr)										
13–14	16	0.4	12	0.3	9	0.2	9	0.2	6	0.1
15–19	250	2.4	254	2.4	245	2.3	204	2.0	157	1.5
20–24	748	6.8	780	7.2	729	6.8	732	6.8	562	5.3
25–29	1,055	9.3	989	8.5	959	8.2	953	8.2	776	6.8
30–34	1,042	9.5	1,020	9.3	960	8.7	969	8.7	812	7.1
35–39	978	9.3	933	8.7	932	8.6	910	8.3	704	6.4
40–44	786	7.8	749	7.5	794	7.9	769	7.6	574	5.6
45–49	788	7.4	780	7.3	736	7.0	688	6.6	556	5.4
50–54	732	6.5	670	6.1	670	6.2	634	6.0	463	4.4
55–59	588	5.2	571	5.0	552	4.8	524	4.6	427	3.8
60–64	354	3.4	337	3.2	328	3.1	355	3.3	272	2.5
≥65	238	0.9	274	1.0	253	0.9	273	0.9	181	0.6
Race/ethnicity										
American Indian/Alaska Native	41	—	45	—	29	—	45	—	43	—
Asian	147	—	117	—	103	—	96	—	86	—
Black/African American	4,378	—	4,281	—	4,018	—	3,868	—	2,965	—
Hispanic/Latino ^c	1,298	—	1,265	—	1,279	—	1,260	—	954	—
Native Hawaiian/other Pacific Islander	6	—	7	—	5	—	10	—	15	—
White	1,427	—	1,427	—	1,475	—	1,513	—	1,289	—
Multiracial	278	—	227	—	258	—	228	—	138	—
Region of residence^d										
Northeast	1,393	5.6	1,329	5.4	1,220	4.9	1,148	4.6	890	3.6
Midwest	939	3.2	947	3.3	923	3.2	964	3.3	736	2.5
South	4,128	7.9	4,071	7.7	3,953	7.4	3,845	7.1	3,011	5.5
West	1,010	3.1	928	2.9	990	3.0	982	3.0	812	2.4
U.S. dependent areas	105	6.1	94	5.6	81	5.0	81	4.9	41	2.5
Subtotal	7,575	5.4	7,369	5.2	7,167	5.1	7,020	4.9	5,490	3.8
Total	39,972	14.6	38,776	14.1	37,868	13.7	36,940	13.2	30,635	10.9

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

a Rates are per 100,000 population.

b Data include transgender and additional gender identity persons.

c Hispanic/Latino persons can be of any race.

d Data are based on residence at time of diagnosis of HIV infection.

Table 4a. Diagnoses of HIV infection among transgender and additional gender identity persons, by year of diagnosis and selected characteristics, 2016–2020—United States

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	61	57	41	40	31
20–24	201	149	163	166	145
25–29	185	171	185	165	193
30–34	90	109	95	130	125
35–39	69	55	72	62	47
40–44	27	30	32	40	37
45–49	17	21	22	21	31
50–54	9	8	7	16	16
55–59	9	7	6	7	7
60–64	3	5	2	4	5
≥65	3	0	2	1	1
Race/ethnicity					
American Indian/Alaska Native	4	2	9	5	8
Asian	8	18	9	11	16
Black/African American	343	306	302	315	309
Hispanic/Latino ^b	212	184	211	215	202
Native Hawaiian/other Pacific Islander	2	3	3	5	3
White	61	76	63	80	72
Multiracial	44	23	30	21	28
Exposure category^c					
Sexual contact ^d	620	555	563	580	576
Injection drug use	0	3	4	2	1
Sexual contact ^d and injection drug use	40	38	50	54	35
Other ^e	14	16	10	16	26
Region of residence^f					
Northeast	144	102	114	104	105
Midwest	99	99	98	85	98
South	302	278	272	287	279
West	129	133	143	176	156
Subtotal	674	612	627	652	638
Transgender man^a					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	1	3	2	0	1
20–24	5	7	9	11	12
25–29	5	16	18	18	10
30–34	4	1	9	12	8
35–39	3	3	4	2	5
40–44	1	0	4	0	2
45–49	2	2	1	2	1
50–54	1	0	1	0	1
55–59	0	1	0	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian	1	2	0	1	0
Black/African American	5	11	18	18	11
Hispanic/Latino ^b	7	6	10	12	10
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	6	11	18	10	15
Multiracial	3	3	2	4	4
Exposure category^c					
Sexual contact ^d	20	28	40	36	29
Injection drug use	0	1	2	1	1
Sexual contact ^d and injection drug use	1	1	2	2	5
Other ^e	1	3	4	6	5
Region of residence^f					
Northeast	2	5	7	6	8
Midwest	5	8	7	6	2
South	6	12	16	17	24
West	9	8	18	16	6
Subtotal	22	33	48	45	40

Table 4a. Diagnoses of HIV infection among transgender and additional gender identity persons, by year of diagnosis and selected characteristics, 2016–2020—United States (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Additional gender identity^g					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	1	1	4	3	1
20–24	4	2	5	8	7
25–29	4	3	4	6	6
30–34	1	3	1	3	1
35–39	0	4	1	2	2
40–44	0	0	0	0	0
45–49	0	2	0	0	0
50–54	0	0	0	1	0
55–59	1	0	0	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	1	0	0
Asian	0	1	2	0	1
Black/African American	5	6	5	8	8
Hispanic/Latino ^b	3	5	2	6	4
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	2	3	3	5	4
Multiracial	1	0	2	4	0
Exposure category^c					
Sexual contact ^d	9	14	15	21	14
Injection drug use	0	0	0	0	0
Sexual contact ^d and injection drug use	2	0	0	1	1
Other ^e	0	1	0	1	2
Region of residence^f					
Northeast	4	9	10	8	2
Midwest	1	2	0	7	5
South	4	4	3	4	5
West	2	0	2	4	5
Subtotal	11	15	15	23	17
Total	707	660	690	720	695

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

b Hispanic/Latino persons can be of any race.

c Risk factor data for transgender and additional gender identity persons are presented using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. Exposure categories are mutually exclusive and have no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. See Technical Notes for more information on exposure categories.

d For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

e Other risk factors, including perinatal, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

f Data are based on residence at time of diagnosis of HIV infection.

g Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 4b. Diagnoses of HIV infection among transgender and additional gender identity persons aged ≥13 years, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	61	57	41	40	31
20–24	202	150	164	167	146
25–29	186	172	186	166	193
30–34	91	109	95	130	126
35–39	69	55	72	62	47
40–44	27	30	32	40	37
45–49	17	21	22	21	31
50–54	9	8	7	16	16
55–59	9	7	6	7	7
60–64	3	5	2	4	5
≥65	3	0	2	1	1
Race/ethnicity					
American Indian/Alaska Native	4	2	9	5	8
Asian	8	18	9	11	16
Black/African American	343	306	302	315	309
Hispanic/Latino ^b	215	186	213	217	204
Native Hawaiian/other Pacific Islander	2	3	3	5	3
White	61	76	63	80	72
Multiracial	44	23	30	21	28
Exposure category^c					
Sexual contact ^d	623	557	565	582	578
Injection drug use	0	3	4	2	1
Sexual contact ^d and injection drug use	40	38	50	54	35
Other ^e	14	16	10	16	26
Region of residence^f					
Northeast	144	102	114	104	105
Midwest	99	99	98	85	98
South	302	278	272	287	279
West	129	133	143	176	156
U.S. dependent areas	3	2	2	2	2
Subtotal	677	614	629	654	640
Transgender man^a					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	1	3	2	0	1
20–24	5	7	9	11	12
25–29	5	16	18	18	10
30–34	4	1	9	12	8
35–39	3	3	5	2	5
40–44	1	0	4	0	2
45–49	2	2	1	2	1
50–54	1	0	1	0	1
55–59	0	1	0	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian	1	2	0	1	0
Black/African American	5	11	18	18	11
Hispanic/Latino ^b	7	6	11	12	10
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	6	11	18	10	15
Multiracial	3	3	2	4	4
Exposure category^c					
Sexual contact ^d	20	28	41	36	29
Injection drug use	0	1	2	1	1
Sexual contact ^d and injection drug use	1	1	2	2	5
Other ^e	1	3	4	6	5
Region of residence^f					
Northeast	2	5	7	6	8
Midwest	5	8	7	6	2
South	6	12	16	17	24
West	9	8	18	16	6
U.S. dependent areas	0	0	1	0	0
Subtotal	22	33	49	45	40

Table 4b. Diagnoses of HIV infection among transgender and additional gender identity persons aged ≥13 years, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Additional gender identity^g					
Age at diagnosis (yr)					
13–14	0	0	0	0	0
15–19	1	1	4	3	1
20–24	4	2	5	8	7
25–29	4	3	4	6	6
30–34	1	3	1	3	1
35–39	0	4	1	2	2
40–44	0	0	0	0	0
45–49	0	2	0	0	0
50–54	0	0	0	1	0
55–59	1	0	0	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	1	0	0
Asian	0	1	2	0	1
Black/African American	5	6	5	8	8
Hispanic/Latino ^b	3	5	2	6	4
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	2	3	3	5	4
Multiracial	1	0	2	4	0
Exposure category^c					
Sexual contact ^d	9	14	15	21	14
Injection drug use	0	0	0	0	0
Sexual contact ^d and injection drug use	2	0	0	1	1
Other ^e	0	1	0	1	2
Region of residence^f					
Northeast	4	9	10	8	2
Midwest	1	2	0	7	5
South	4	4	3	4	5
West	2	0	2	4	5
U.S. dependent areas	0	0	0	0	0
Subtotal	11	15	15	23	17
Total	710	662	693	722	697

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

^a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^b Hispanic/Latino persons can be of any race.

^c Risk factor data for transgender and additional gender identity persons are presented using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. Exposure categories are mutually exclusive and have no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. See Technical Notes for more information on exposure categories.

^d For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

^e Other risk factors, including perinatal, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

^f Data are based on residence at time of diagnosis of HIV infection.

^g Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 5a. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.		
	American Indian/Alaska Native										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	2	2	7	7	5	0	0	0	0	0	0
20–24	24	18	25	25	23	4	3	2	3	4	
25–29	36	31	21	28	25	5	5	7	6	4	
30–34	28	18	18	16	20	3	6	6	1	3	
35–39	12	14	9	19	14	2	1	2	3	5	
40–44	14	11	7	6	14	0	2	1	0	3	
45–49	6	6	7	7	7	0	1	2	1	1	
50–54	5	8	7	9	10	1	0	0	1	1	
55–59	3	2	3	3	5	0	0	0	0	0	
60–64	3	2	0	2	2	0	1	0	0	0	
≥65	1	1	3	0	1	0	1	0	0	0	
Region of residence^a											
Northeast	7	2	5	4	6	0	0	0	0	0	0
Midwest	12	10	13	8	11	1	3	5	2	4	
South	33	26	17	41	35	6	9	4	3	0	
West	82	75	72	67	74	9	7	13	11	16	
Total	135	112	106	120	126	16	20	21	16	20	
American Indian/Alaska Native											
Age at diagnosis (yr)											
13–14	0	0	1	0	0	0	0	0	0	0	0
15–19	20	25	24	18	17	0	0	0	0	0	0
20–24	109	148	108	91	64	4	3	1	2	1	
25–29	155	151	168	131	124	2	4	3	2	4	
30–34	123	113	119	94	89	2	5	3	6	4	
35–39	78	90	74	74	52	1	0	3	2	0	
40–44	86	74	62	43	44	1	1	1	0	2	
45–49	50	65	58	51	42	1	3	0	1	1	
50–54	31	35	24	35	25	1	0	0	0	0	
55–59	19	20	19	18	14	0	0	0	0	0	
60–64	8	8	9	7	12	0	0	0	0	0	
≥65	10	7	10	9	8	1	0	0	0	0	
Region of residence^a											
Northeast	134	129	130	105	73	3	3	2	2	0	
Midwest	59	76	66	53	57	4	0	0	1	1	
South	147	153	173	145	110	1	1	1	4	1	
West	348	379	306	268	251	6	12	10	7	10	
Total	689	737	675	570	491	13	16	13	14	12	
Asian											
Age at diagnosis (yr)											
13–14	0	0	1	0	0	0	0	0	0	0	0
15–19	20	25	24	18	17	0	0	0	0	0	0
20–24	109	148	108	91	64	4	3	1	2	1	
25–29	155	151	168	131	124	2	4	3	2	4	
30–34	123	113	119	94	89	2	5	3	6	4	
35–39	78	90	74	74	52	1	0	3	2	0	
40–44	86	74	62	43	44	1	1	1	0	2	
45–49	50	65	58	51	42	1	3	0	1	1	
50–54	31	35	24	35	25	1	0	0	0	0	
55–59	19	20	19	18	14	0	0	0	0	0	
60–64	8	8	9	7	12	0	0	0	0	0	
≥65	10	7	10	9	8	1	0	0	0	0	
Region of residence^a											
Northeast	134	129	130	105	73	3	3	2	2	0	
Midwest	59	76	66	53	57	4	0	0	1	1	
South	147	153	173	145	110	1	1	1	4	1	
West	348	379	306	268	251	6	12	10	7	10	
Total	689	737	675	570	491	13	16	13	14	12	

Table 5a. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016	2017	2018	2019	2020 (COVID-19 pandemic) No.	2016	2017	2018	2019	2020 (COVID-19 pandemic) No.	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
Black/African American											
Age at diagnosis (yr)	13–14	4	4	7	7	2	0	0	0	0	0
	15–19	802	855	811	802	608	16	13	10	10	10
	20–24	2,815	2,530	2,425	2,399	2,076	65	43	51	39	42
	25–29	2,544	2,492	2,513	2,353	1,982	78	71	78	88	56
	30–34	1,210	1,330	1,274	1,425	1,466	50	49	49	66	55
	35–39	721	761	744	744	670	32	37	27	40	22
	40–44	447	442	448	469	397	16	17	20	23	15
	45–49	377	356	354	339	269	20	12	10	18	11
	50–54	346	321	309	281	244	13	24	18	17	9
	55–59	202	206	200	212	203	9	12	10	8	6
	60–64	98	111	101	114	92	7	5	5	6	2
	≥65	64	67	79	80	55	4	5	4	2	2
Region of residence^a	Northeast	1,144	1,143	1,082	1,108	941	38	36	50	41	36
	Midwest	1,584	1,502	1,461	1,415	1,323	66	51	52	46	41
	South	6,064	6,013	5,892	5,899	5,079	167	150	137	175	115
	West	839	819	829	803	719	40	51	44	55	37
Total	9,630	9,476	9,264	9,226	8,062	311	288	282	318	230	
Hispanic/Latino^b											
Age at diagnosis (yr)	13–14	2	5	0	2	3	0	0	0	0	0
	15–19	314	337	320	356	252	17	11	10	7	5
	20–24	1,486	1,382	1,375	1,382	1,047	80	68	73	64	33
	25–29	1,796	1,750	1,791	1,752	1,434	85	98	105	96	70
	30–34	1,325	1,332	1,321	1,312	1,187	77	68	54	71	55
	35–39	934	927	914	926	735	47	50	44	62	32
	40–44	624	594	557	611	537	37	22	27	34	20
	45–49	475	513	501	458	358	12	18	19	22	19
	50–54	356	342	335	348	294	17	16	16	21	11
	55–59	154	172	197	182	191	7	8	3	10	4
	60–64	76	71	90	92	85	4	3	4	2	7
	≥65	54	74	69	70	54	3	2	2	3	1
Region of residence^a	Northeast	1,247	1,285	1,172	1,163	924	56	40	54	60	26
	Midwest	494	517	521	521	412	30	30	27	35	17
	South	3,253	3,199	3,220	3,247	2,642	146	132	112	142	90
	West	2,602	2,498	2,557	2,562	2,199	155	164	166	156	123
Total	7,596	7,499	7,469	7,492	6,176	386	365	359	394	256	

Table 5a. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Native Hawaiian/other Pacific Islander										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	1	1	3	1	3	0	0	0	0	0	0
20–24	1	9	7	6	6	0	0	2	0	0	0
25–29	7	9	9	19	11	2	0	2	0	1	
30–34	3	9	11	10	7	2	0	1	1	1	
35–39	7	2	8	7	7	0	1	0	1	0	
40–44	3	5	2	4	5	0	0	0	0	0	
45–49	0	1	2	0	1	0	0	0	0	1	
50–54	2	1	1	4	2	0	0	0	0	0	
55–59	0	0	4	1	1	0	0	0	0	0	
60–64	0	0	1	1	0	0	0	0	0	0	
≥65	1	0	1	0	0	1	0	0	0	0	
Region of residence^a											
Northeast	2	3	2	2	3	1	0	0	0	0	0
Midwest	1	2	2	5	3	0	0	0	0	1	
South	4	7	8	13	8	0	0	0	0	0	
West	18	25	36	33	28	4	1	5	2	2	
Total	24	37	48	52	42	5	1	5	3	3	
White											
Age at diagnosis (yr)											
13–14	0	1	0	1	0	0	0	0	0	0	0
15–19	155	161	169	132	120	20	13	10	14	1	
20–24	868	916	798	730	591	95	87	70	74	48	
25–29	1,206	1,204	1,124	1,096	913	160	169	181	166	124	
30–34	962	885	948	888	858	129	130	145	144	106	
35–39	673	726	658	662	544	86	100	115	112	103	
40–44	612	490	523	455	454	67	62	57	64	52	
45–49	709	614	562	467	406	58	60	49	52	42	
50–54	733	672	535	503	441	44	41	43	36	32	
55–59	459	440	432	458	410	35	25	27	31	23	
60–64	239	243	250	235	204	14	16	7	14	9	
≥65	200	185	208	182	185	9	10	6	10	5	
Region of residence^a											
Northeast	953	831	749	693	583	66	81	76	61	73	
Midwest	1,183	1,216	1,086	968	937	141	107	133	145	99	
South	2,968	2,837	2,794	2,657	2,282	280	310	285	294	206	
West	1,712	1,655	1,580	1,490	1,325	229	213	217	215	166	
Total	6,815	6,538	6,208	5,808	5,126	716	712	711	715	545	

Table 5a. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Multiracial										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	57	57	43	45	34	3	2	3	2	1	
20–24	276	221	183	154	115	18	12	9	6	6	
25–29	265	245	197	175	134	25	11	25	17	10	
30–34	150	144	119	118	77	16	11	13	24	4	
35–39	79	81	83	73	62	9	13	12	5	6	
40–44	69	55	44	46	43	3	4	2	7	5	
45–49	57	49	40	31	34	7	6	6	1	5	
50–54	44	52	31	17	24	5	6	4	2	1	
55–59	33	21	14	32	13	3	3	0	2	0	
60–64	20	15	10	9	7	3	0	0	0	0	
≥65	9	8	11	7	9	0	0	0	1	0	
Region of residence^a											
Northeast	205	167	136	138	94	16	10	7	7	5	
Midwest	142	151	112	77	83	18	10	14	13	7	
South	497	451	370	363	266	36	35	29	31	16	
West	216	178	157	127	106	22	14	23	15	11	
Total	1,059	947	775	706	550	92	69	73	66	38	
Total											
Age at diagnosis (yr)											
13–14	5	10	8	10	5	0	0	0	0	0	
15–19	1,351	1,439	1,376	1,359	1,038	55	39	32	33	17	
20–24	5,579	5,224	4,920	4,787	3,921	265	215	208	189	134	
25–29	6,010	5,881	5,823	5,553	4,622	357	359	402	375	269	
30–34	3,801	3,831	3,810	3,863	3,704	279	269	271	312	227	
35–39	2,504	2,600	2,490	2,505	2,083	177	201	204	224	169	
40–44	1,854	1,670	1,643	1,634	1,494	125	108	108	128	96	
45–49	1,674	1,605	1,522	1,353	1,116	99	100	87	96	79	
50–54	1,517	1,432	1,242	1,196	1,040	82	87	82	77	54	
55–59	870	862	869	905	836	54	49	41	50	33	
60–64	444	451	460	460	401	29	25	18	23	19	
≥65	339	342	380	349	312	18	18	13	17	8	
Region of residence^a											
Northeast	3,691	3,559	3,274	3,213	2,624	178	170	188	172	141	
Midwest	3,475	3,474	3,261	3,047	2,826	260	201	232	242	171	
South	12,966	12,684	12,473	12,364	10,420	636	637	567	650	428	
West	5,816	5,629	5,537	5,350	4,702	465	462	478	461	365	
Total	25,948	25,346	24,545	23,974	20,572	1,539	1,470	1,465	1,524	1,105	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as male-to-male sexual contact or male-to-male sexual contact and injection drug use are presented based on sex at birth and include transgender and additional gender identity persons.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 5b. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	American Indian/Alaska Native										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	2	2	7	7	5	0	0	0	0	0	0
20–24	24	18	25	25	23	4	3	2	3	4	
25–29	36	31	21	28	25	5	5	7	6	4	
30–34	28	18	18	16	20	3	6	6	1	3	
35–39	12	14	9	19	14	2	1	2	3	5	
40–44	14	11	7	6	14	0	2	1	0	3	
45–49	6	6	7	7	7	0	1	2	1	1	
50–54	5	8	7	9	10	1	0	0	1	1	
55–59	3	2	3	3	5	0	0	0	0	0	
60–64	3	2	0	2	2	0	1	0	0	0	
≥65	1	1	3	0	1	0	1	0	0	0	
Region of residence^a											
Northeast	7	2	5	4	6	0	0	0	0	0	0
Midwest	12	10	13	8	11	1	3	5	2	4	
South	33	26	17	41	35	6	9	4	3	0	
West	82	75	72	67	74	9	7	13	11	16	
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	
Total	135	112	106	120	126	16	20	21	16	20	
Asian											
Age at diagnosis (yr)											
13–14	0	0	1	0	0	0	0	0	0	0	0
15–19	20	25	24	18	17	0	0	0	0	0	0
20–24	109	148	108	91	64	4	3	1	2	1	
25–29	155	151	169	134	124	2	4	3	3	4	
30–34	123	115	121	95	89	2	5	3	6	4	
35–39	79	91	74	75	52	1	0	3	2	0	
40–44	86	74	62	43	44	1	1	1	0	2	
45–49	50	65	58	51	42	1	3	0	1	1	
50–54	31	35	24	35	25	1	0	0	1	0	
55–59	19	20	19	18	14	0	0	0	0	0	
60–64	8	8	9	7	12	0	0	0	0	0	
≥65	10	7	10	9	8	1	0	0	0	0	
Region of residence^a											
Northeast	134	129	130	105	73	3	3	2	2	0	
Midwest	59	76	66	53	57	4	0	0	1	1	
South	147	153	173	145	110	1	1	1	4	1	
West	348	379	306	268	251	6	12	10	7	10	
U.S. dependent areas	1	3	4	6	0	0	0	0	1	0	
Total	690	740	679	576	491	13	16	13	15	12	

Table 5b. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Black/African American										
Age at diagnosis (yr)											
13–14	4	4	7	7	2	0	0	0	0	0	
15–19	802	855	811	802	610	16	13	10	10	10	
20–24	2,816	2,530	2,425	2,400	2,076	65	43	51	39	42	
25–29	2,544	2,492	2,515	2,353	1,982	78	71	78	88	56	
30–34	1,211	1,330	1,275	1,425	1,466	50	49	49	66	55	
35–39	721	761	744	744	670	32	37	27	40	22	
40–44	448	443	449	469	397	16	17	20	23	15	
45–49	377	356	354	339	269	20	12	10	18	11	
50–54	346	321	309	281	244	13	24	18	17	9	
55–59	202	206	200	212	203	9	12	10	8	6	
60–64	98	111	101	114	92	7	5	5	6	2	
≥65	64	67	79	80	55	4	5	4	2	2	
Region of residence^a											
Northeast	1,144	1,143	1,082	1,108	941	38	36	50	41	36	
Midwest	1,584	1,502	1,461	1,415	1,323	66	51	52	46	41	
South	6,064	6,013	5,892	5,899	5,079	167	150	137	175	115	
West	839	819	829	803	719	40	51	44	55	37	
U.S. dependent areas	3	1	4	1	2	0	0	0	0	0	
Total	9,633	9,478	9,268	9,227	8,064	311	288	282	318	230	
Hispanic/Latino^b											
Age at diagnosis (yr)											
13–14	2	5	0	2	3	0	0	0	0	0	
15–19	321	344	334	362	258	18	11	10	7	5	
20–24	1,547	1,432	1,425	1,426	1,085	80	70	74	67	34	
25–29	1,853	1,792	1,844	1,796	1,467	87	102	108	97	72	
30–34	1,367	1,369	1,356	1,349	1,217	79	70	57	73	55	
35–39	970	948	934	950	761	50	52	45	64	34	
40–44	644	609	579	624	547	38	23	28	35	20	
45–49	495	529	523	471	370	13	21	19	22	19	
50–54	379	364	351	363	310	17	16	17	21	11	
55–59	169	181	207	193	197	7	8	5	11	4	
60–64	78	75	97	101	89	4	3	5	2	7	
≥65	56	76	72	73	56	3	2	3	4	1	
Region of residence^a											
Northeast	1,247	1,285	1,172	1,163	924	56	40	54	60	26	
Midwest	494	517	521	521	412	30	30	27	35	17	
South	3,253	3,199	3,220	3,247	2,642	146	132	112	142	90	
West	2,602	2,498	2,557	2,562	2,199	155	164	166	156	123	
U.S. dependent areas	285	226	253	217	183	11	13	12	10	5	
Total	7,881	7,725	7,722	7,709	6,359	397	378	371	404	261	

Table 5b. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Native Hawaiian/other Pacific Islander										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	
15–19	1	1	3	1	3	0	0	0	0	0	
20–24	2	9	7	6	6	0	0	2	0	0	
25–29	7	9	9	19	11	3	0	2	1	1	
30–34	5	9	11	10	7	2	0	1	1	1	
35–39	7	2	9	7	7	0	1	0	1	0	
40–44	3	5	2	5	5	0	0	0	0	0	
45–49	0	1	2	0	1	0	0	0	0	1	
50–54	2	1	1	5	2	0	0	0	0	0	
55–59	0	0	4	1	1	0	0	0	0	0	
60–64	0	0	1	1	0	0	0	0	0	0	
≥65	1	0	1	0	0	1	0	0	0	0	
Region of residence^a											
Northeast	2	3	2	2	3	1	0	0	0	0	
Midwest	1	2	2	5	3	0	0	0	0	1	
South	4	7	8	13	8	0	0	0	0	0	
West	18	25	36	33	28	4	1	5	2	2	
U.S. dependent areas	3	0	1	2	0	1	0	0	1	0	
Total	28	37	49	54	42	6	1	5	4	3	
White											
Age at diagnosis (yr)											
13–14	0	1	0	1	0	0	0	0	0	0	
15–19	155	161	169	132	120	20	13	10	14	1	
20–24	869	916	798	730	591	95	87	70	74	48	
25–29	1,206	1,204	1,124	1,096	913	160	169	181	166	124	
30–34	963	885	948	890	858	129	130	145	144	106	
35–39	673	728	658	662	544	86	100	115	112	103	
40–44	612	490	524	455	454	67	62	57	64	52	
45–49	709	614	562	467	406	58	60	49	52	42	
50–54	733	673	536	503	441	44	41	43	36	32	
55–59	459	440	433	458	410	35	25	27	31	23	
60–64	239	243	250	236	204	14	16	7	14	9	
≥65	200	185	208	183	185	9	10	6	10	5	
Region of residence^a											
Northeast	953	831	749	693	583	66	81	76	61	73	
Midwest	1,183	1,216	1,086	968	937	141	107	133	145	99	
South	2,968	2,837	2,794	2,657	2,282	280	310	285	294	206	
West	1,712	1,655	1,580	1,490	1,325	229	213	217	215	166	
U.S. dependent areas	2	3	3	4	0	0	0	0	0	0	
Total	6,817	6,541	6,211	5,812	5,126	716	712	711	715	545	

Table 5b. Diagnoses of HIV infection among males, based on sex at birth, attributed to male-to-male sexual contact and male-to-male sexual contact and injection drug use, by year of diagnosis and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male-to-male sexual contact					Male-to-male sexual contact and injection drug use					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Multiracial										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	57	57	43	45	34	3	2	3	2	1	
20–24	276	221	183	154	115	18	12	9	6	6	
25–29	265	245	197	175	134	25	11	25	17	10	
30–34	150	144	119	118	77	16	11	13	24	4	
35–39	79	81	83	73	62	9	13	12	5	6	
40–44	69	55	44	46	43	3	4	2	7	5	
45–49	57	49	40	31	34	7	6	6	1	5	
50–54	44	52	31	17	24	5	6	4	2	1	
55–59	33	21	14	32	13	3	3	0	2	0	
60–64	21	15	10	9	7	3	0	0	0	0	
≥65	9	8	11	7	9	0	0	0	1	0	
Region of residence^a											
Northeast	205	167	136	138	94	16	10	7	7	5	
Midwest	142	151	112	77	83	18	10	14	13	7	
South	497	451	370	363	266	36	35	29	31	16	
West	216	178	157	127	106	22	14	23	15	11	
U.S. dependent areas	1	1	0	0	0	0	0	0	0	0	
Total	1,060	948	775	706	550	92	69	73	66	38	
Total											
Age at diagnosis (yr)											
13–14	5	10	8	10	5	0	0	0	0	0	
15–19	1,358	1,446	1,390	1,365	1,046	56	39	32	33	17	
20–24	5,642	5,274	4,970	4,832	3,958	265	217	209	192	135	
25–29	6,067	5,923	5,879	5,600	4,655	361	363	405	378	272	
30–34	3,847	3,870	3,848	3,902	3,734	281	272	274	315	227	
35–39	2,540	2,626	2,510	2,530	2,109	180	204	205	226	170	
40–44	1,876	1,686	1,668	1,648	1,505	126	108	108	128	96	
45–49	1,694	1,621	1,544	1,366	1,128	100	102	87	96	79	
50–54	1,540	1,455	1,260	1,213	1,056	82	87	82	77	54	
55–59	885	871	881	917	842	54	49	42	51	33	
60–64	448	455	468	469	406	29	25	19	23	19	
≥65	342	344	383	352	314	18	18	14	18	8	
Region of residence^a											
Northeast	3,691	3,559	3,274	3,213	2,624	178	170	188	172	141	
Midwest	3,475	3,474	3,261	3,047	2,826	260	201	232	242	171	
South	12,966	12,684	12,473	12,364	10,420	636	637	567	650	428	
West	5,816	5,629	5,537	5,350	4,702	465	462	478	461	365	
U.S. dependent areas	295	234	264	230	185	12	13	12	12	5	
Total	26,244	25,580	24,810	24,204	20,758	1,551	1,483	1,477	1,536	1,109	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as male-to-male sexual contact or male-to-male sexual contact and injection drug use are presented based on sex at birth and include transgender and additional gender identity persons.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 6a. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	American Indian/Alaska Native										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	1	0	0	0	0	0	0	0	0
20–24	3	0	0	2	1	1	1	0	2	0	0
25–29	5	6	1	1	0	3	2	3	1	6	
30–34	0	3	3	2	3	1	1	2	2	3	
35–39	1	0	0	4	1	2	3	3	7	4	
40–44	2	1	0	3	0	1	2	1	3	3	
45–49	2	0	1	1	0	2	2	2	1	1	
50–54	0	3	2	1	2	4	2	2	2	1	
55–59	3	1	0	0	0	0	0	1	0	0	
60–64	0	1	0	0	0	0	0	1	0	0	
≥65	0	1	0	0	0	0	1	0	1	1	
Region of residence^a											
Northeast	0	1	0	0	0	1	1	0	0	0	0
Midwest	0	2	2	4	3	1	1	2	5	10	
South	3	2	1	2	3	1	4	5	7	2	
West	14	11	5	8	2	12	9	6	8	8	
Total	17	16	9	15	8	15	15	14	19	20	
Asian											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	0	0	0	0
20–24	0	1	1	0	0	1	0	0	0	0	0
25–29	2	1	0	2	1	1	2	0	0	0	0
30–34	1	0	2	0	2	1	0	2	2	2	
35–39	3	2	0	3	1	1	1	1	1	1	
40–44	1	3	2	1	2	1	0	0	1	0	
45–49	3	2	2	3	3	2	0	0	1	1	
50–54	1	1	1	3	2	0	1	0	0	1	
55–59	1	1	0	1	1	0	0	0	0	0	
60–64	0	0	1	0	2	0	1	0	0	0	
≥65	1	0	1	1	1	0	0	0	0	1	
Region of residence^a											
Northeast	4	4	5	4	3	3	1	1	1	1	1
Midwest	2	0	1	3	3	0	1	0	0	0	0
South	2	2	4	3	1	2	2	2	1	2	
West	6	5	1	6	8	3	4	2	4	3	
Total	14	10	11	15	14	8	7	5	6	6	

Table 6a. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Black/African American										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	0	0	1	0	
15–19	4	6	4	4	3	7	8	7	7	7	
20–24	20	16	21	22	20	22	30	24	29	20	
25–29	29	35	46	51	35	39	38	29	44	34	
30–34	33	49	51	57	41	42	40	40	43	36	
35–39	44	41	59	45	37	36	39	35	44	30	
40–44	44	31	35	44	26	29	40	30	34	18	
45–49	41	46	43	31	29	33	41	36	40	25	
50–54	57	47	50	40	30	53	40	41	30	24	
55–59	43	53	51	39	39	42	31	39	31	31	
60–64	36	35	36	42	23	28	25	26	29	16	
≥65	29	31	35	33	30	18	19	16	21	10	
Region of residence^a											
Northeast	103	123	122	117	90	76	92	80	94	50	
Midwest	54	61	59	51	42	54	60	46	51	46	
South	183	173	204	199	155	182	164	162	164	125	
West	39	32	45	40	26	39	35	37	42	29	
Total	379	389	430	407	313	350	351	324	351	250	
Hispanic/Latino^b											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	1	
15–19	2	4	3	1	2	4	4	2	6	2	
20–24	18	20	24	17	15	13	19	22	19	8	
25–29	37	40	34	44	37	31	18	20	21	18	
30–34	48	58	63	44	36	25	29	27	23	26	
35–39	43	44	46	48	39	14	24	26	35	23	
40–44	23	43	35	38	42	17	21	15	13	16	
45–49	34	38	35	25	26	17	16	21	15	9	
50–54	39	41	39	27	27	17	14	14	17	11	
55–59	25	23	25	25	13	13	7	9	9	9	
60–64	12	12	14	13	12	7	7	9	6	9	
≥65	13	13	10	12	14	7	4	6	5	3	
Region of residence^a											
Northeast	97	115	109	85	74	52	47	55	51	38	
Midwest	14	16	14	10	13	11	11	9	12	6	
South	85	93	95	88	76	54	53	49	55	34	
West	98	114	110	111	98	48	52	58	52	56	
Total	295	338	329	295	261	165	163	170	170	134	

Table 6a. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.		
	Native Hawaiian/other Pacific Islander										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	0	0	0	0
20–24	0	0	0	0	0	0	0	0	0	0	0
25–29	0	0	0	1	1	0	0	0	0	0	0
30–34	0	0	0	0	0	0	0	0	0	0	0
35–39	0	0	0	0	1	0	0	0	0	0	0
40–44	0	0	0	0	0	0	0	0	0	0	0
45–49	0	0	1	0	0	0	0	0	0	0	1
50–54	0	1	0	0	0	2	0	0	0	0	0
55–59	0	0	0	0	0	0	0	0	0	0	0
60–64	0	0	0	0	0	0	0	0	0	0	1
≥65	0	0	0	0	0	0	0	0	0	0	0
Region of residence^a											
Northeast	0	0	0	0	0	0	0	0	0	0	0
Midwest	0	0	0	1	1	0	0	0	0	0	0
South	0	0	0	0	0	0	0	0	0	0	1
West	0	1	1	0	1	2	0	0	0	0	2
Total	0	1	1	1	3	2	0	0	0	0	2
White											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	3	3	4	0	4	5	9	8	6	2	
20–24	30	35	36	44	21	44	51	46	44	17	
25–29	77	86	99	103	81	93	91	87	89	74	
30–34	61	89	107	112	113	70	99	99	106	84	
35–39	65	74	113	102	116	59	79	96	97	69	
40–44	44	49	63	71	61	45	52	71	75	46	
45–49	49	57	51	69	52	45	40	46	55	38	
50–54	53	36	50	43	32	38	41	41	38	37	
55–59	25	36	35	43	36	20	34	27	35	32	
60–64	17	18	22	17	13	16	9	10	12	16	
≥65	17	17	10	9	8	10	6	6	5	7	
Region of residence^a											
Northeast	82	93	115	96	99	87	90	92	78	59	
Midwest	80	92	118	105	89	85	92	109	98	63	
South	159	196	223	276	243	187	234	224	279	221	
West	120	119	134	133	108	85	95	112	108	80	
Total	440	501	589	611	539	445	510	537	563	422	

Table 6a. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.		
	Multiracial										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	
15–19	1	0	0	0	0	1	2	3	2	0	
20–24	3	2	5	4	5	4	6	9	2	2	
25–29	10	8	5	3	4	6	8	12	9	4	
30–34	1	6	4	12	10	3	4	6	4	2	
35–39	7	5	4	2	10	9	6	6	8	3	
40–44	6	4	4	2	2	5	5	5	8	3	
45–49	2	5	3	3	3	7	3	5	3	3	
50–54	8	3	7	5	3	5	3	5	5	1	
55–59	5	2	4	2	2	6	3	1	2	1	
60–64	3	1	1	1	2	1	0	3	1	2	
≥65	1	2	1	2	0	1	0	1	1	0	
Region of residence^a											
Northeast	8	10	6	15	7	12	13	10	10	2	
Midwest	3	9	8	7	7	6	4	9	11	4	
South	16	11	13	10	22	20	15	24	19	11	
West	18	8	11	6	5	11	7	12	6	4	
Total	44	37	38	37	42	49	39	55	46	21	
Total											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	1	0	1	1	
15–19	11	13	13	5	9	17	23	19	21	11	
20–24	73	73	87	88	62	86	107	101	96	48	
25–29	158	176	186	207	160	174	159	150	164	137	
30–34	144	205	230	228	204	143	174	176	179	153	
35–39	163	166	223	204	205	122	152	166	192	128	
40–44	120	130	140	159	133	98	120	123	133	86	
45–49	131	149	134	132	112	104	102	110	115	78	
50–54	158	133	149	119	95	120	101	103	93	75	
55–59	101	116	116	110	92	81	75	77	78	73	
60–64	68	67	74	74	53	52	42	49	48	44	
≥65	62	64	57	57	53	36	30	30	34	21	
Region of residence^a											
Northeast	293	346	358	317	273	230	244	239	234	150	
Midwest	153	180	202	182	158	157	169	174	176	128	
South	448	477	540	579	501	446	471	465	523	396	
West	295	290	307	304	247	201	202	227	221	181	
Total	1,189	1,292	1,407	1,381	1,178	1,034	1,086	1,105	1,154	855	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as injection drug use include transgender and additional gender identity persons.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 6b. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016	2017	2018	2019	2020 (COVID-19 pandemic) No.	2016	2017	2018	2019		
	No.	No.	No.	No.	No.	No.	No.	No.	No.		
American Indian/Alaska Native											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	
15–19	0	0	1	0	0	0	0	0	0	0	
20–24	3	0	0	2	1	1	1	0	2	0	
25–29	5	6	1	1	0	3	2	3	1	6	
30–34	0	3	3	2	3	1	1	2	2	3	
35–39	1	0	0	4	1	2	3	3	7	4	
40–44	2	1	0	3	0	1	2	1	3	3	
45–49	2	0	1	1	0	2	2	2	1	1	
50–54	0	3	2	1	2	4	2	2	2	1	
55–59	3	1	0	0	0	0	0	1	0	0	
60–64	0	1	0	0	0	0	0	1	0	0	
≥65	0	1	0	0	0	0	1	0	1	1	
Region of residence^a											
Northeast	0	1	0	0	0	1	1	0	0	0	
Midwest	0	2	2	4	3	1	1	2	5	10	
South	3	2	1	2	3	1	4	5	7	2	
West	14	11	5	8	2	12	9	6	8	8	
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	
Total	17	16	9	15	8	15	15	14	19	20	
Asian											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	
15–19	0	0	0	0	0	0	0	0	0	0	
20–24	0	1	1	0	0	1	0	0	0	0	
25–29	2	1	0	2	1	1	2	0	0	0	
30–34	1	0	2	0	2	1	0	2	2	2	
35–39	3	2	0	3	1	1	1	1	1	1	
40–44	1	3	2	1	2	1	0	0	1	0	
45–49	3	2	2	3	3	2	0	0	1	1	
50–54	1	1	1	3	2	0	1	0	0	1	
55–59	1	1	0	1	1	0	0	0	0	0	
60–64	0	0	1	0	2	0	1	0	0	0	
≥65	1	0	1	1	1	0	0	0	0	1	
Region of residence^a											
Northeast	4	4	5	4	3	3	1	1	1	1	
Midwest	2	0	1	3	3	0	1	0	0	0	
South	2	2	4	3	1	2	2	2	1	2	
West	6	5	1	6	8	3	4	2	4	3	
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	
Total	14	10	11	16	14	8	7	5	6	6	

Table 6b. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.	
	2016		2017		2018		2019		2020 (COVID-19 pandemic) No.			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Black/African American												
Age at diagnosis (yr)												
13–14	0	0	0	0	0	1	0	0	1	0		
15–19	4	6	4	4	3	7	8	7	7	7		
20–24	20	16	21	22	20	22	30	24	29	20		
25–29	29	35	46	51	35	39	38	29	44	34		
30–34	33	49	51	57	41	42	40	40	43	36		
35–39	44	41	59	45	37	36	39	35	44	30		
40–44	44	31	35	44	26	29	40	30	34	18		
45–49	41	46	43	31	29	33	41	36	40	25		
50–54	57	47	50	40	30	53	40	41	30	24		
55–59	43	53	52	40	39	42	31	39	31	31		
60–64	36	35	36	42	23	28	25	26	29	16		
≥65	29	31	35	33	30	18	19	16	21	10		
Region of residence^a												
Northeast	103	123	122	117	90	76	92	80	94	50		
Midwest	54	61	59	51	42	54	60	46	51	46		
South	183	173	204	199	155	182	164	162	164	125		
West	39	32	45	40	26	39	35	37	42	29		
U.S. dependent areas	1	0	1	1	0	0	0	0	0	0		
Total	380	389	431	409	313	350	351	324	351	250		
Hispanic/Latino^b												
Age at diagnosis (yr)												
13–14	0	0	0	0	0	0	0	0	0	1		
15–19	2	4	3	1	2	4	4	2	6	2		
20–24	20	20	24	17	15	14	19	22	19	8		
25–29	38	42	36	45	37	32	18	20	21	18		
30–34	49	63	65	44	39	26	29	28	23	26		
35–39	48	45	47	53	41	16	26	26	36	23		
40–44	27	44	40	42	47	19	21	15	13	17		
45–49	39	41	38	27	28	18	19	21	17	9		
50–54	42	51	44	29	27	19	15	14	18	12		
55–59	32	28	26	26	17	13	8	9	10	9		
60–64	16	16	16	16	14	9	8	9	6	9		
≥65	16	17	12	17	15	7	4	6	5	3		
Region of residence^a												
Northeast	97	115	109	85	74	52	47	55	51	38		
Midwest	14	16	14	10	13	11	11	9	12	6		
South	85	93	95	88	76	54	53	49	55	34		
West	98	114	110	111	98	48	52	58	52	56		
U.S. dependent areas	35	34	23	23	19	12	9	2	6	2		
Total	329	371	352	318	280	177	172	172	175	136		

Table 6b. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.	
	2016		2017		2018		2019		2020 (COVID-19 pandemic) No.			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Native Hawaiian/other Pacific Islander												
Age at diagnosis (yr)												
13–14	0	0	0	0	0	0	0	0	0	0	0	
15–19	0	0	0	0	0	0	0	0	0	0	0	
20–24	0	0	0	0	0	0	0	0	0	0	0	
25–29	0	0	0	1	1	0	0	0	0	0	0	
30–34	0	0	0	0	0	0	0	0	0	0	0	
35–39	0	0	0	0	1	0	0	0	0	0	0	
40–44	0	0	0	0	0	0	0	0	0	0	0	
45–49	0	0	1	0	0	0	0	0	0	0	1	
50–54	0	1	0	0	0	2	0	0	0	0	0	
55–59	0	0	0	0	0	0	0	0	0	0	0	
60–64	0	0	0	0	0	0	0	0	0	0	1	
≥65	0	0	0	0	0	0	0	0	0	0	0	
Region of residence^a												
Northeast	0	0	0	0	0	0	0	0	0	0	0	
Midwest	0	0	0	1	1	0	0	0	0	0	0	
South	0	0	0	0	0	0	0	0	0	0	1	
West	0	1	1	0	1	2	0	0	0	0	2	
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	0	
Total	0	1	2	1	3	2	0	0	0	0	2	
White												
Age at diagnosis (yr)												
13–14	0	0	0	0	0	0	0	0	0	0	0	
15–19	3	3	4	0	4	5	9	8	6	2		
20–24	30	35	36	44	21	44	51	46	44	17		
25–29	77	86	99	103	81	93	91	87	89	74		
30–34	61	89	107	112	113	70	99	99	106	84		
35–39	65	74	113	102	116	59	79	96	97	69		
40–44	44	49	63	71	61	45	52	71	75	46		
45–49	49	57	51	69	52	45	40	46	55	38		
50–54	53	36	50	43	32	38	41	41	38	37		
55–59	25	36	35	43	36	20	34	27	35	32		
60–64	17	18	22	17	13	16	9	10	12	16		
≥65	17	17	10	9	8	10	6	6	5	7		
Region of residence^a												
Northeast	82	93	115	96	99	87	90	92	78	59		
Midwest	80	92	118	105	89	85	92	109	98	63		
South	159	196	223	276	243	187	234	224	279	221		
West	120	119	134	133	108	85	95	112	108	80		
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0		
Total	440	501	589	611	539	445	511	537	563	422		

Table 6b. Diagnoses of HIV infection attributed to injection drug use, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.	
	2016		2017		2018		2019		2020 (COVID-19 pandemic) No.			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Multiracial												
Age at diagnosis (yr)	0	0	0	0	0	0	0	0	0	0	0	
13–14	0	0	0	0	0	0	0	0	0	0	0	
15–19	1	0	0	0	0	1	2	3	2	0	0	
20–24	3	2	5	4	5	4	6	9	2	2	2	
25–29	10	8	5	3	4	6	8	12	9	4	4	
30–34	1	6	4	12	10	3	4	6	4	2	2	
35–39	7	5	4	2	10	9	6	6	8	3	3	
40–44	6	4	4	2	2	5	5	5	8	3	3	
45–49	2	5	3	3	3	7	3	5	3	3	3	
50–54	8	3	7	5	3	5	3	5	5	1	1	
55–59	5	2	4	2	2	6	3	1	2	1	1	
60–64	3	1	1	1	2	1	0	3	1	2	2	
≥65	1	2	1	2	0	1	0	1	1	0	0	
Region of residence^a	8	10	6	15	7	12	13	10	10	2		
Northeast	3	9	8	7	7	6	4	9	11	4		
Midwest	16	11	13	10	22	20	15	24	19	11		
South	18	8	11	6	5	11	7	12	6	4		
West	0	0	0	0	0	0	0	0	0	0		
Total	44	37	38	37	42	49	39	55	46	21		
Total												
Age at diagnosis (yr)	0	0	0	0	0	1	1	0	1	1		
13–14	0	0	0	0	0	1	1	0	1	1		
15–19	11	13	13	5	9	17	24	19	21	11		
20–24	75	73	87	89	62	87	107	101	96	48		
25–29	160	178	188	208	160	175	159	150	164	137		
30–34	145	210	232	228	207	144	174	177	179	153		
35–39	168	167	224	208	208	124	154	166	193	128		
40–44	124	131	145	163	138	100	120	123	133	87		
45–49	136	152	137	134	115	105	105	111	117	78		
50–54	161	142	154	121	95	122	102	103	94	76		
55–59	109	120	118	113	95	81	76	77	79	73		
60–64	71	71	76	76	55	54	43	49	48	44		
≥65	64	68	59	61	54	36	31	30	34	21		
Region of residence^a	293	346	358	317	273	230	244	239	234	150		
Northeast	153	180	202	182	158	157	169	174	176	128		
Midwest	448	477	540	579	501	446	471	465	523	396		
South	295	290	307	304	247	201	202	227	221	181		
West	36	34	24	25	19	12	9	2	6	2		
Total	1,225	1,326	1,431	1,406	1,198	1,046	1,095	1,106	1,160	857		

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as injection drug use include transgender and additional gender identity persons.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 7a. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	American Indian/Alaska Native										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	1	0	0	0	0	1	1	0	0
20–24	0	0	1	2	0	0	3	1	2	0	0
25–29	0	0	1	0	0	4	5	1	2	1	1
30–34	1	2	1	1	0	3	2	1	3	6	6
35–39	1	3	1	0	0	6	4	2	6	6	6
40–44	1	0	0	2	0	6	3	3	6	5	5
45–49	1	1	0	0	0	3	5	3	3	2	2
50–54	1	0	0	1	2	1	5	2	2	1	1
55–59	0	0	1	1	0	2	2	3	1	2	2
60–64	0	0	0	0	1	2	2	0	1	1	1
≥65	1	0	0	0	0	1	0	0	1	1	1
Region of residence^a											
Northeast	0	0	1	0	0	1	0	0	0	1	1
Midwest	1	0	1	2	0	1	3	1	9	4	4
South	2	3	2	6	2	9	5	8	4	7	7
West	5	4	3	1	1	15	22	7	12	11	11
Total	7	7	8	9	3	26	30	15	26	23	
American Indian/Alaska Native											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	0	0	0	0	0
15–19	0	0	0	1	1	0	2	0	1	1	1
20–24	3	2	5	1	1	9	5	6	6	2	2
25–29	2	4	1	2	3	20	18	15	8	11	11
30–34	11	4	8	3	2	33	8	16	16	12	12
35–39	13	10	8	2	3	24	24	11	16	15	15
40–44	4	3	11	5	2	14	11	12	6	4	4
45–49	8	6	6	4	4	11	12	8	14	8	8
50–54	4	3	6	6	4	10	12	9	4	9	9
55–59	3	3	2	5	4	8	7	9	8	6	6
60–64	4	4	5	4	2	4	6	6	7	7	7
≥65	6	3	6	3	5	5	5	7	4	4	4
Region of residence^a											
Northeast	8	9	13	14	3	32	16	27	13	12	12
Midwest	9	7	2	1	5	13	18	5	11	8	8
South	24	12	24	12	12	43	30	28	29	24	24
West	17	15	19	7	10	49	45	38	37	34	34
Total	58	42	58	35	30	137	109	97	90	79	
Asian											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	0	0	0	0	0
15–19	0	0	0	1	1	0	2	0	1	1	1
20–24	3	2	5	1	1	9	5	6	6	2	2
25–29	2	4	1	2	3	20	18	15	8	11	11
30–34	11	4	8	3	2	33	8	16	16	12	12
35–39	13	10	8	2	3	24	24	11	16	15	15
40–44	4	3	11	5	2	14	11	12	6	4	4
45–49	8	6	6	4	4	11	12	8	14	8	8
50–54	4	3	6	6	4	10	12	9	4	9	9
55–59	3	3	2	5	4	8	7	9	8	6	6
60–64	4	4	5	4	2	4	6	6	7	7	7
≥65	6	3	6	3	5	5	5	7	4	4	4
Region of residence^a											
Northeast	8	9	13	14	3	32	16	27	13	12	12
Midwest	9	7	2	1	5	13	18	5	11	8	8
South	24	12	24	12	12	43	30	28	29	24	24
West	17	15	19	7	10	49	45	38	37	34	34
Total	58	42	58	35	30	137	109	97	90	79	

Table 7a. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016	2017	2018	2019	2020 (COVID-19 pandemic) No.	2016	2017	2018	2019		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
Black/African American											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	5	3	2	4	2	
15–19	39	23	32	26	17	137	140	131	94	79	
20–24	161	125	115	119	93	396	404	394	379	277	
25–29	248	197	226	178	153	552	516	485	450	377	
30–34	230	207	232	189	158	525	535	467	466	398	
35–39	234	221	210	181	145	540	476	460	433	326	
40–44	224	185	163	162	140	419	409	424	379	286	
45–49	221	185	171	196	126	423	398	363	326	277	
50–54	229	201	201	175	110	378	344	326	323	223	
55–59	182	190	168	154	122	304	296	300	274	200	
60–64	121	127	102	131	90	187	198	175	191	139	
≥65	122	112	106	123	87	123	167	128	159	91	
Region of residence^a											
Northeast	349	315	256	244	184	652	638	554	521	403	
Midwest	192	190	199	186	137	488	504	484	476	365	
South	1,379	1,205	1,196	1,138	867	2,556	2,507	2,343	2,222	1,703	
West	93	64	75	66	51	292	236	275	259	203	
Total	2,012	1,774	1,725	1,634	1,240	3,988	3,885	3,656	3,478	2,674	
Hispanic/Latino^b											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	1	4	3	0	
15–19	4	8	7	7	3	31	39	33	34	30	
20–24	50	28	29	27	31	100	118	95	111	96	
25–29	72	68	60	76	48	137	139	132	145	99	
30–34	89	75	88	67	44	159	134	128	144	98	
35–39	88	77	87	69	61	126	125	146	114	104	
40–44	83	79	72	72	44	122	100	106	112	87	
45–49	77	57	77	54	41	102	120	107	96	71	
50–54	56	53	62	55	53	99	83	111	94	72	
55–59	38	38	48	38	26	68	70	71	63	55	
60–64	29	31	20	33	23	40	40	44	50	37	
≥65	24	29	31	21	17	40	37	46	38	25	
Region of residence^a											
Northeast	161	140	138	108	78	303	261	244	219	196	
Midwest	43	28	35	33	17	58	61	56	69	47	
South	306	279	321	296	231	437	458	484	470	359	
West	101	96	87	83	64	226	227	238	247	172	
Total	611	543	581	520	390	1,024	1,007	1,022	1,004	773	

Table 7a. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Native Hawaiian/other Pacific Islander										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	1	1	1	1
20–24	0	0	0	0	0	1	0	0	1	2	
25–29	0	1	0	1	0	0	2	0	2	2	
30–34	0	1	1	0	1	1	3	2	1	1	
35–39	1	0	0	0	1	1	2	0	2	1	
40–44	0	0	0	0	0	0	0	0	1	1	
45–49	1	1	0	0	0	0	0	0	0	1	
50–54	0	0	0	0	0	1	0	1	1	1	
55–59	0	0	0	0	0	0	0	1	0	2	
60–64	0	0	0	0	0	0	0	0	0	1	
≥65	0	1	0	0	0	0	0	0	0	0	
Region of residence^a											
Northeast	0	1	0	0	0	0	1	1	0	1	
Midwest	1	0	0	0	0	0	0	0	4	0	
South	1	1	1	0	0	0	2	1	1	4	
West	0	2	0	1	2	4	4	3	4	7	
Total	2	4	2	1	2	4	7	5	9	12	
White											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	1	1	0	0	
15–19	4	5	4	3	1	30	28	31	31	20	
20–24	31	16	20	19	16	103	95	93	91	96	
25–29	37	46	48	50	30	132	109	123	130	113	
30–34	45	50	61	41	40	140	126	126	125	120	
35–39	47	47	51	43	37	108	109	117	121	107	
40–44	52	51	42	47	32	94	85	103	97	88	
45–49	47	52	54	54	40	102	104	105	103	104	
50–54	74	64	44	50	40	101	98	97	95	72	
55–59	49	47	50	47	39	92	93	73	82	73	
60–64	35	37	38	27	26	53	39	38	46	31	
≥65	42	33	32	27	26	20	24	26	23	34	
Region of residence^a											
Northeast	93	81	81	66	62	121	116	105	112	95	
Midwest	48	51	57	59	56	161	150	166	174	147	
South	255	237	242	215	163	502	489	497	487	435	
West	64	77	63	67	44	190	154	164	172	181	
Total	461	446	443	407	325	974	910	933	944	858	

Table 7a. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Multiracial										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	1	1	1	0	12	6	13	10	7	
20–24	8	4	3	3	3	39	26	19	22	20	
25–29	13	11	9	8	0	26	22	35	35	23	
30–34	7	14	15	8	4	28	26	34	22	15	
35–39	20	10	6	5	2	33	27	23	19	10	
40–44	11	12	4	9	5	17	14	14	21	10	
45–49	13	9	7	7	2	27	24	26	20	9	
50–54	10	6	9	5	2	13	15	10	15	4	
55–59	8	7	1	8	2	18	15	9	5	8	
60–64	3	6	4	3	1	6	4	10	7	9	
≥65	5	5	4	7	2	9	5	8	6	1	
Region of residence^a											
Northeast	28	23	22	19	4	45	42	42	39	22	
Midwest	12	11	6	13	3	45	27	27	31	20	
South	52	46	32	27	14	117	89	106	91	65	
West	6	7	2	4	3	20	27	26	21	10	
Total	99	86	62	64	24	227	184	200	181	116	
Total											
Age at diagnosis (yr)											
13–14	0	0	1	0	0	7	6	7	8	2	
15–19	48	37	44	39	22	210	214	210	173	136	
20–24	254	175	173	171	143	647	651	608	612	492	
25–29	371	327	346	315	234	869	811	790	772	626	
30–34	384	352	406	309	249	888	833	774	777	651	
35–39	404	369	364	301	249	838	767	759	710	570	
40–44	375	330	292	296	223	671	622	662	622	481	
45–49	368	311	315	315	212	668	663	611	562	472	
50–54	374	327	322	292	209	601	556	555	533	382	
55–59	281	285	270	253	193	492	483	466	431	346	
60–64	191	206	168	198	142	292	289	273	301	224	
≥65	200	183	177	181	136	198	237	214	229	155	
Region of residence^a											
Northeast	639	568	511	451	331	1,155	1,074	972	903	730	
Midwest	306	286	300	294	218	765	763	739	774	591	
South	2,019	1,782	1,818	1,696	1,289	3,664	3,580	3,467	3,303	2,596	
West	286	265	248	229	175	796	715	751	751	619	
Total	3,251	2,902	2,877	2,669	2,012	6,380	6,131	5,928	5,730	4,536	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as heterosexual contact include transgender and additional gender identity persons.

Includes persons who have ever had sexual contact with a person known to have, or with a risk factor for, HIV infection (e.g., a person who injects drugs).

Excludes men who have ever had sexual contact with both men and women.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 7b. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	American Indian/Alaska Native										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	1	0	0	0	0	1	1	0	0
20–24	0	0	1	2	0	0	3	1	2	0	0
25–29	0	0	1	0	0	4	5	1	2	1	1
30–34	1	2	1	1	0	3	2	1	3	6	6
35–39	1	3	1	0	0	6	4	2	6	6	6
40–44	1	0	0	2	0	6	3	3	6	5	5
45–49	1	1	0	0	0	3	5	3	3	2	2
50–54	1	0	0	1	2	1	5	2	2	1	1
55–59	0	0	1	1	0	2	2	3	1	2	2
60–64	0	0	0	0	1	2	2	0	1	1	1
≥65	1	0	0	0	0	1	0	0	1	1	1
Region of residence^a											
Northeast	0	0	1	0	0	1	0	0	0	1	1
Midwest	1	0	1	2	0	1	3	1	9	4	4
South	2	3	2	6	2	9	5	8	4	7	7
West	5	4	3	1	1	15	22	7	12	11	11
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	0
Total	7	7	8	9	3	26	30	15	26	23	
Asian											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	0	0	0	0	0
15–19	0	0	0	1	1	0	2	0	1	1	1
20–24	3	2	5	1	1	9	5	6	6	2	2
25–29	2	4	1	2	3	20	18	15	8	11	11
30–34	11	4	8	3	2	33	8	16	16	12	12
35–39	13	10	8	2	3	24	24	11	16	15	15
40–44	4	3	11	5	2	14	11	12	6	4	4
45–49	8	6	6	4	4	11	12	8	14	8	8
50–54	4	3	6	6	4	10	12	9	4	9	9
55–59	3	3	2	5	4	8	7	9	8	6	6
60–64	4	4	5	4	2	4	6	6	7	7	7
≥65	6	3	6	3	5	5	5	7	4	4	4
Region of residence^a											
Northeast	8	9	13	14	3	32	16	27	13	12	12
Midwest	9	7	2	1	5	13	18	5	11	8	8
South	24	12	24	12	12	43	30	28	29	24	24
West	17	15	19	7	10	49	45	38	37	34	34
U.S. dependent areas	0	0	0	0	0	0	0	0	0	0	0
Total	58	42	58	35	30	137	109	97	90	79	

Table 7b. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Black/African American										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	5	3	2	4	2	
15–19	39	23	32	26	17	137	140	131	94	79	
20–24	161	125	115	119	93	396	404	394	379	277	
25–29	248	197	227	178	153	552	516	485	450	377	
30–34	230	207	232	189	159	525	536	467	466	398	
35–39	234	221	210	181	145	540	476	460	433	326	
40–44	224	185	163	162	140	419	409	424	379	286	
45–49	222	185	172	196	126	423	399	363	326	277	
50–54	229	201	201	175	110	378	344	326	323	223	
55–59	182	190	169	154	122	304	296	300	274	200	
60–64	122	127	102	131	90	187	198	175	191	139	
≥65	122	112	106	124	87	123	167	128	159	91	
Region of residence^a											
Northeast	349	315	256	244	184	652	638	554	521	403	
Midwest	192	190	199	186	137	488	504	484	476	365	
South	1,379	1,205	1,196	1,138	867	2,556	2,507	2,343	2,222	1,703	
West	93	64	75	66	51	292	236	275	259	203	
U.S. dependent areas	2	0	3	2	1	0	2	0	1	0	
Total	2,014	1,774	1,728	1,636	1,241	3,988	3,887	3,656	3,479	2,674	
Hispanic/Latino^b											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	1	1	4	3	0	
15–19	4	9	8	7	3	33	42	35	34	30	
20–24	51	36	31	30	33	105	123	104	115	100	
25–29	76	72	68	79	52	142	150	139	151	102	
30–34	95	83	97	73	45	167	140	133	153	99	
35–39	97	88	92	73	65	141	135	151	118	107	
40–44	98	89	75	78	47	136	107	114	125	92	
45–49	95	61	81	65	43	116	131	121	104	76	
50–54	67	59	77	59	57	106	93	122	99	77	
55–59	49	47	51	47	34	82	81	79	75	62	
60–64	39	41	24	40	30	46	44	49	55	40	
≥65	41	40	40	31	20	42	41	52	46	28	
Region of residence^a											
Northeast	161	140	138	108	78	303	261	244	219	196	
Midwest	43	28	35	33	17	58	61	56	69	47	
South	306	279	321	296	231	437	458	484	470	359	
West	101	96	87	83	64	226	227	238	247	172	
U.S. dependent areas	100	83	64	62	38	93	81	80	73	39	
Total	711	627	644	581	427	1,117	1,088	1,101	1,077	812	

Table 7b. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Native Hawaiian/other Pacific Islander										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	1	1	1	1
20–24	0	1	0	0	0	1	0	0	2	2	2
25–29	0	1	0	1	0	0	2	0	2	2	2
30–34	0	1	1	0	1	1	3	2	1	1	1
35–39	1	0	0	0	1	1	2	0	2	1	1
40–44	0	0	0	0	0	0	0	0	1	1	1
45–49	1	1	0	0	0	0	0	0	0	0	1
50–54	0	0	0	0	0	1	0	1	1	1	1
55–59	0	0	1	0	0	0	0	1	0	2	2
60–64	0	0	0	0	0	0	0	0	0	0	1
≥65	0	1	0	0	0	0	0	0	0	0	0
Region of residence^a											
Northeast	0	1	0	0	0	0	1	1	0	1	1
Midwest	1	0	0	0	0	0	0	0	4	0	0
South	1	1	1	0	0	0	2	1	1	1	4
West	0	2	0	1	2	4	4	3	4	7	7
U.S. dependent areas	0	1	1	0	0	0	0	0	1	0	0
Total	3	5	2	1	2	4	7	5	10	12	
White											
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	1	1	0	0	0
15–19	4	5	4	3	1	30	28	31	31	20	20
20–24	31	16	20	19	16	103	95	93	91	96	96
25–29	37	46	48	50	30	132	109	123	130	113	113
30–34	45	50	61	41	40	140	126	126	125	120	120
35–39	47	47	51	43	37	108	109	117	121	107	107
40–44	52	51	42	47	32	94	85	103	97	88	88
45–49	47	52	54	55	40	102	104	105	103	104	104
50–54	74	64	44	50	40	101	99	97	95	72	72
55–59	49	47	50	47	39	92	93	73	82	73	73
60–64	35	37	38	27	26	53	39	38	46	31	31
≥65	42	33	32	27	26	20	24	26	23	34	34
Region of residence^a											
Northeast	93	81	81	66	62	121	116	105	112	95	95
Midwest	48	51	57	59	56	161	150	166	174	147	147
South	255	237	242	215	163	502	489	497	487	435	435
West	64	77	63	67	44	190	154	164	172	181	181
U.S. dependent areas	0	0	0	1	0	0	2	0	0	0	0
Total	461	446	443	408	325	974	911	933	944	858	

Table 7b. Diagnoses of HIV infection attributed to heterosexual contact, by year of diagnosis, sex assigned at birth, race/ethnicity, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	Male sex at birth					Female sex at birth					2020 (COVID-19 pandemic) No.
	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.	
	Multiracial										
Age at diagnosis (yr)											
13–14	0	0	0	0	0	0	0	0	0	0	0
15–19	0	1	1	1	0	12	6	13	10	7	
20–24	8	4	3	3	3	39	26	19	22	20	
25–29	13	11	9	8	0	26	22	35	35	23	
30–34	7	14	15	8	4	28	26	34	22	15	
35–39	20	11	7	5	2	33	27	23	19	10	
40–44	11	12	4	9	5	17	14	14	21	10	
45–49	13	9	7	7	2	27	24	26	20	9	
50–54	10	6	9	5	2	13	15	10	15	4	
55–59	8	7	1	8	2	18	15	9	5	8	
60–64	3	6	4	3	1	6	4	10	7	9	
≥65	5	5	4	7	2	9	5	8	6	1	
Region of residence^a											
Northeast	28	23	22	19	4	45	42	42	39	22	
Midwest	12	11	6	13	3	45	27	27	31	20	
South	52	46	32	27	14	117	89	106	91	65	
West	6	7	2	4	3	20	27	26	21	10	
U.S. dependent areas	0	0	2	0	0	0	0	0	0	0	
Total	99	86	64	64	24	227	184	200	181	116	
Total											
Age at diagnosis (yr)											
13–14	0	0	1	0	0	7	6	7	8	2	
15–19	48	38	45	39	22	212	218	212	173	136	
20–24	255	184	175	174	145	652	656	617	617	496	
25–29	375	331	355	318	238	874	822	797	778	629	
30–34	390	361	415	315	251	896	840	779	786	652	
35–39	413	380	370	305	252	853	777	764	714	573	
40–44	390	340	295	303	226	685	629	670	635	486	
45–49	387	315	320	327	214	682	675	625	570	477	
50–54	385	333	337	296	214	608	567	566	539	387	
55–59	292	294	275	262	201	506	494	474	443	353	
60–64	203	216	173	205	149	298	293	277	306	227	
≥65	217	194	187	192	139	200	241	220	237	158	
Region of residence^a											
Northeast	639	568	511	451	331	1,155	1,074	972	903	730	
Midwest	306	286	300	294	218	765	763	739	774	591	
South	2,019	1,782	1,818	1,696	1,289	3,664	3,580	3,467	3,303	2,596	
West	286	265	248	229	175	796	715	751	751	619	
U.S. dependent areas	102	85	70	65	39	93	85	80	75	39	
Total	3,353	2,987	2,947	2,734	2,051	6,473	6,216	6,008	5,805	4,575	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column total.

Persons whose transmission category is classified as heterosexual contact include transgender and additional gender identity persons.

Includes persons who have ever had sexual contact with a person known to have, or with a risk factor for, HIV infection (e.g., a person who injects drugs).

Excludes men who have ever had sexual contact with both men and women.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Hispanic/Latino persons can be of any race.

Table 8a. Diagnoses of HIV infection among persons aged 13–24 years, by age at diagnosis, sex assigned at birth, and selected characteristics, 2020 (COVID-19 pandemic)—United States

	13–14 years		15–17 years		18–19 years		20–22 years		23–24 years		Total	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Sex at birth												
Male	6	0.1	240	3.8	851	19.8	2,436	36.9	1,828	41.3	5,361	20.6
Female	6	0.1	49	0.8	108	2.6	289	4.6	269	6.3	721	2.9
Race/ethnicity												
American Indian/Alaska Native	0	0.0	2	1.9	3	4.2	14	12.8	14	19.5	33	7.7
Asian	0	0.0	1	0.2	18	4.0	37	5.2	31	5.9	87	3.1
Black/African American	8	0.7	170	10.1	565	48.4	1,506	82.7	1,038	85.3	3,287	46.6
Hispanic/Latino ^b	4	0.2	71	2.3	223	11.1	678	22.8	553	28.6	1,529	12.6
Native Hawaiian/other Pacific Islander	0	0.0	0	0.0	4	24.3	4	15.7	4	22.9	12	11.8
White	0	0.0	34	0.5	115	2.6	400	5.8	392	8.4	941	3.5
Multiracial	0	0.0	11	2.3	31	10.5	86	20.1	65	24.5	193	10.6
Transmission category^c												
Male sex at birth^d												
Male-to-male sexual contact	5	—	227	—	811	—	2,268	—	1,653	—	4,964	—
Injection drug use	0	—	1	—	9	—	30	—	31	—	71	—
Male-to-male sexual contact and injection drug use	0	—	4	—	14	—	61	—	73	—	151	—
Heterosexual contact ^e	0	—	7	—	15	—	74	—	69	—	165	—
Perinatal ^f	1	—	1	—	2	—	2	—	1	—	8	—
Other ^g	0	—	0	—	0	—	0	—	1	—	1	—
Subtotal	6	0.1	240	3.8	851	19.8	2,436	36.9	1,828	41.3	5,361	20.6
Female sex at birth^d												
Injection drug use	1	—	2	—	8	—	25	—	23	—	59	—
Heterosexual contact ^e	2	—	41	—	96	—	253	—	239	—	631	—
Perinatal ^f	3	—	6	—	4	—	12	—	6	—	31	—
Other ^g	0	—	0	—	0	—	0	—	0	—	0	—
Subtotal	6	0.1	49	0.8	108	2.6	289	4.6	269	6.3	721	2.9
Region of residence^h												
Northeast	2	0.2	41	2.0	111	7.7	297	13.8	281	19.9	732	8.8
Midwest	3	0.2	43	1.6	121	6.8	420	15.2	305	17.0	892	8.3
South	5	0.2	163	3.3	590	18.2	1,550	31.2	1,096	33.1	3,404	17.3
West	2	0.1	42	1.4	137	6.9	458	15.0	415	19.3	1,054	8.6
Total	12	0.1	289	2.3	959	11.4	2,725	21.1	2,097	24.2	6,082	11.9

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by transmission category because of the lack of denominator data.

^b Hispanic/Latino persons can be of any race.

^c Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^d Data include transgender and additional gender identity persons.

^e Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^f Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^g Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^h Data are based on residence at time of diagnosis of HIV infection.

Table 8b. Diagnoses of HIV infection among persons aged 13–24 years, by age at diagnosis, sex assigned at birth, and selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

	13–14 years No.	15–17 years No.	18–19 years No.	20–22 years No.	23–24 years No.	Total No.
Sex at birth						
Male	6	242	857	2,448	1,857	5,410
Female	6	49	108	291	271	725
Race/ethnicity						
American Indian/Alaska Native	0	2	3	14	14	33
Asian	0	1	18	37	31	87
Black/African American	8	170	567	1,506	1,038	3,289
Hispanic/Latino ^a	4	73	227	692	584	1,580
Native Hawaiian/other Pacific Islander	0	0	4	4	4	12
White	0	34	115	400	392	941
Multiracial	0	11	31	86	65	193
Transmission category^b						
Male sex at birth^c						
Male-to-male sexual contact	5	229	817	2,279	1,679	5,009
Injection drug use	0	1	9	30	32	72
Male-to-male sexual contact and injection drug use	0	4	14	62	73	152
Heterosexual contact ^d	0	7	15	74	71	167
Perinatal ^e	1	1	2	2	1	8
Other ^f	0	0	0	0	1	1
Subtotal	6	242	857	2,448	1,857	5,410
Female sex at birth^c						
Injection drug use	1	2	8	25	23	59
Heterosexual contact ^e	2	41	96	255	241	635
Perinatal ^e	3	6	4	12	6	31
Other ^f	0	0	0	0	0	0
Subtotal	6	49	108	291	271	725
Region of residence^g						
Northeast	2	41	111	297	281	732
Midwest	3	43	121	420	305	892
South	5	163	590	1,550	1,096	3,404
West	2	42	137	458	415	1,054
U.S. dependent areas	0	2	6	14	31	53
Total	12	291	965	2,739	2,128	6,135

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12 should be interpreted with caution.

^a Hispanic/Latino persons can be of any race.

^b Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^c Data include transgender and additional gender identity persons.

^d Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^e Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^f Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^g Data are based on residence at time of diagnosis of HIV infection.

Table 9a. Diagnoses of HIV infection among children aged <13 years, by year of diagnosis and race/ethnicity, 2016–2020—United States

Race/ethnicity	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
American Indian/Alaska Native	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2
Asian	8	0.3	7	0.3	6	0.2	6	0.2	2	0.1
Black/African American	76	1.1	56	0.8	50	0.7	32	0.4	32	0.4
Hispanic/Latino ^b	18	0.1	16	0.1	11	0.1	7	0.1	9	0.1
Native Hawaiian/other Pacific Islander	0	0.0	1	0.9	0	0.0	0	0.0	1	0.9
White	20	0.1	15	0.1	15	0.1	7	0.0	12	0.0
Multiracial	8	0.3	10	0.4	5	0.2	4	0.2	0	0.0
Total	130	0.2	105	0.2	87	0.2	57	0.1	57	0.1

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population.

^b Hispanic/Latino persons can be of any race.

Table 9b. Diagnoses of HIV infection among children aged <13 years, by year of diagnosis and race/ethnicity, 2016–2020—United States and 6 dependent areas

Race/ethnicity	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
American Indian/Alaska Native	0	0	0	0	1	1	1	1	1	1
Asian	8	7	6	6	6	6	6	6	2	2
Black/African American	76	56	50	32	32	32	32	32	32	32
Hispanic/Latino ^a	18	16	11	7	7	7	7	7	9	9
Native Hawaiian/other Pacific Islander	0	1	0	0	0	0	0	0	1	1
White	20	15	15	7	7	7	7	7	12	12
Multiracial	8	10	5	4	4	4	4	4	0	0
Total	130	105	87	57	57	57	57	57	57	57

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

^a Hispanic/Latino persons can be of any race.

Table 10a. Diagnoses of HIV infection among Hispanic/Latino persons aged ≥13 years, by place of birth and transmission category, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

Transmission category ^d	Caribbean ^a														No. ^e	% ^e	
	United States		South America ^b		Central America ^c		Mexico		Puerto Rico		Cuba		Other				
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male sex at birth^f																	
Male-to-male sexual contact	2,140	86.8	459	92.2	325	83.2	574	87.0	268	74.6	199	86.5	80	73.8	6,359	86.7	
Injection drug use	107	4.4	3	0.7	9	2.3	13	2.0	32	8.9	3	1.3	4	3.4	280	3.8	
Male-to-male sexual contact and injection drug use	112	4.6	7	1.4	9	2.3	15	2.3	9	2.6	1	0.3	2	1.6	261	3.6	
Heterosexual contact ^g	104	4.2	29	5.8	47	12.1	57	8.7	50	13.9	28	12.0	23	21.2	427	5.8	
Perinatal ^h	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Other ⁱ	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.0	
Subtotal	2,465	100	498	100	391	100	660	100	359	100	230	100	109	100	7,331	100	
Female sex at birth^f																	
Injection drug use	63	19.6	1	3.5	3	3.4	4	8.1	8	11.9	0	1.1	3	6.0	136	14.3	
Heterosexual contact ^g	257	80.2	35	95.7	71	96.2	48	88.7	56	88.0	18	97.8	44	92.3	812	85.1	
Perinatal ^h	1	0.2	0	0.0	0	0.0	2	3.0	0	0.0	0	0.0	1	1.7	5	0.5	
Other ⁱ	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	
Subtotal	320	100	37	100	74	100	54	100	64	100	18	100	48	100	954	100	
Total	2,785	100	535	100	465	100	714	100	423	100	248	100	157	100	8,285	100	

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and percentages based on these numbers, should be interpreted with caution.

Hispanic/Latino persons can be of any race.

^a Countries include Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Montserrat, Puerto Rico, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands, Virgin Islands (British), and Virgin Islands (U.S.). Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^b Countries include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

^c Countries include Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

^d Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^e Total includes persons whose place of birth is not among those listed and persons whose place of birth is unknown.

^f Data include transgender and additional gender identity persons.

^g Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^h Individuals were aged ≥13 years at time of diagnosis of HIV infection.

ⁱ Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

Table 10b. Diagnoses of HIV infection among Hispanic/Latino transgender and additional gender identity persons aged ≥13 years, by place of birth and exposure category, 2020 (COVID 19 pandemic)—United States and 6 dependent areas

Exposure category ^d	Caribbean ^a												Total			
	United States		South America ^b		Central America ^c		Mexico		Puerto Rico		Cuba		Other			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Transgender woman^f																
Sexual contact ^g	64	87.7	7	100	23	95.8	25	89.3	6	85.7	5	100	5	100	179	87.7
Injection drug use	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5
Sexual contact ^g and injection drug use	7	9.6	0	0.0	0	0.0	2	7.1	0	0.0	0	0.0	0	0.0	13	6.4
Other ^h	2	2.7	0	0.0	1	4.2	1	3.6	1	14.3	0	0.0	0	0.0	11	5.4
Subtotal	73	100	7	100	24	100	28	100	7	100	5	100	5	100	204	100
Transgender man^f																
Sexual contact ^g	5	55.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	60.0
Injection drug use	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sexual contact ^g and injection drug use	4	44.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	40.0
Other ^h	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Subtotal	9	100	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	10	100
Additional gender identityⁱ																
Sexual contact ^g	3	100	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	75.0
Injection drug use	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sexual contact ^g and injection drug use	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other ^h	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	25.0
Subtotal	3	100	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	100
Total	85	100	7	100	24	100	28	100	7	100	5	100	5	100	218	100

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and percentages based on these numbers, should be interpreted with caution.

Hispanic/Latino persons can be of any race.

^a Countries include Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Montserrat, Puerto Rico, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands, Virgin Islands (British), and Virgin Islands (U.S.). Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^b Countries include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

^c Countries include Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

^d Risk factor data for transgender and additional gender identity persons aged ≥13 years are presented using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. Exposure categories are mutually exclusive and have no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. See Technical Notes for more information on exposure categories.

^e Total includes persons whose place of birth is not among those listed and persons whose place of birth is unknown.

^f "Transgender woman" includes individuals who were assigned "male" sex at birth but have ever identified as "female" gender. "Transgender man" includes individuals who were assigned "female" sex at birth but have ever identified as "male" gender.

^g For persons assigned "male" sex at birth, sexual contact with any person. For persons assigned "female" sex at birth, sexual contact with a person assigned "male" sex at birth.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Additional gender identity examples include "bigender," "gender queer," and "two-spirit."

Table 11a. Deaths of persons with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	12,224	—	12,244	—	12,103	—	12,252	—	13,530	—
Female	4,025	—	3,995	—	3,984	—	3,830	—	4,437	—
Transgender woman/girl ^b	120	—	106	—	117	—	144	—	188	—
Transgender man/boy ^b	2	—	5	—	5	—	5	—	9	—
Additional gender identity ^c	1	—	2	—	1	—	1	—	0	—
Age at death (yr)										
<13	1	0.0	2	0.0	1	0.0	2	0.0	4	0.0
13–14	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0
15–19	10	0.0	7	0.0	9	0.0	10	0.0	14	0.1
20–24	155	0.7	144	0.7	121	0.6	122	0.6	131	0.6
25–29	444	1.9	445	1.9	419	1.8	433	1.8	428	1.8
30–34	656	3.0	601	2.7	614	2.8	662	2.9	754	3.3
35–39	838	4.0	864	4.1	813	3.8	855	3.9	889	4.1
40–44	1,130	5.7	970	5.0	958	4.9	932	4.7	1,078	5.3
45–49	1,812	8.7	1,743	8.3	1,599	7.7	1,394	6.8	1,410	7.1
50–54	2,838	13.0	2,726	12.8	2,583	12.4	2,231	10.9	2,225	10.9
55–59	2,985	13.6	2,971	13.5	2,930	13.4	2,909	13.3	3,166	14.7
60–64	2,413	12.4	2,489	12.5	2,526	12.4	2,664	13.0	3,029	14.6
≥65	3,089	6.3	3,390	6.7	3,637	6.9	4,017	7.4	5,036	9.0
Race/ethnicity										
American Indian/Alaska Native	47	2.0	47	2.0	48	2.0	58	2.4	78	3.2
Asian ^d	100	0.6	88	0.5	84	0.4	101	0.5	97	0.5
Black/African American	7,233	18.0	7,199	17.7	6,984	17.1	6,993	17.0	7,930	19.1
Hispanic/Latino ^e	2,632	4.6	2,694	4.6	2,840	4.8	2,741	4.5	3,245	5.3
Native Hawaiian/other Pacific Islander	14	2.5	9	1.5	13	2.2	14	2.3	10	1.6
White	5,310	2.7	5,239	2.6	5,151	2.6	5,234	2.7	5,514	2.8
Multiracial	1,033	15.2	1,074	15.3	1,090	15.2	1,087	14.7	1,290	17.1

Table 11a. Deaths of persons with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Transmission category^f										
Male sex at birth (≥13 yrs at death)^g										
Male-to-male sexual contact	6,889	—	6,992	—	6,893	—	7,177	—	7,801	—
Injection drug use	2,270	—	2,170	—	2,173	—	2,071	—	2,327	—
Male-to-male sexual contact and injection drug use	1,391	—	1,372	—	1,444	—	1,366	—	1,595	—
Heterosexual contact ^h	1,690	—	1,709	—	1,602	—	1,685	—	1,873	—
Perinatal ⁱ	40	—	41	—	52	—	42	—	56	—
Other ^j	63	—	67	—	57	—	55	—	64	—
Subtotal	12,344	9.3	12,351	9.3	12,220	9.1	12,395	9.2	13,716	10.1
Female sex at birth (≥13 yrs at death)^g										
Injection drug use	1,390	—	1,381	—	1,323	—	1,304	—	1,425	—
Heterosexual contact ^h	2,562	—	2,547	—	2,603	—	2,469	—	2,939	—
Perinatal ⁱ	49	—	43	—	36	—	37	—	44	—
Other ^j	26	—	28	—	27	—	26	—	37	—
Subtotal	4,027	2.9	3,999	2.9	3,989	2.8	3,835	2.7	4,444	3.1
Child (<13 yrs at death)										
Perinatal	1	—	2	—	1	—	1	—	3	—
Other ^j	0	—	0	—	0	—	1	—	1	—
Subtotal	1	0.0	2	0.0	1	0.0	2	0.0	4	0.0
Region of residence^k										
Northeast	3,709	6.6	3,699	6.6	3,529	6.3	3,632	6.5	4,426	7.9
Midwest	1,858	2.7	1,916	2.8	2,004	2.9	1,939	2.8	2,230	3.3
South	8,049	6.6	7,997	6.5	7,870	6.3	7,894	6.3	8,608	6.8
West	2,756	3.6	2,740	3.5	2,807	3.6	2,767	3.5	2,900	3.7
Total^l	16,372	5.1	16,352	5.0	16,210	5.0	16,232	4.9	18,164	5.5

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^b “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^c Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^d Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^e Hispanic/Latino persons can be of any race.

^f Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^g Data presented include transgender and additional gender identity persons.

^h Sexual contact with a person known to have, or with a risk factor for, HIV infection.

ⁱ Include individuals aged ≥13 years at time of diagnosis of HIV infection.

^j Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^k Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

^l Includes persons whose race/ethnicity is unknown.

Table 11b. Deaths of persons with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	12,549	—	12,545	—	12,395	—	12,526	—	13,776	—
Female	4,121	—	4,103	—	4,060	—	3,913	—	4,519	—
Transgender woman/girl ^b	120	—	108	—	118	—	146	—	189	—
Transgender man/boy ^b	2	—	5	—	5	—	5	—	9	—
Additional gender identity ^c	1	—	2	—	1	—	1	—	0	—
Age at death (yr)										
<13	1	0.0	2	0.0	1	0.0	2	0.0	4	0.0
13–14	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0
15–19	11	0.1	7	0.0	9	0.0	10	0.0	14	0.1
20–24	159	0.7	146	0.7	125	0.6	124	0.6	131	0.6
25–29	451	1.9	451	1.9	427	1.8	439	1.8	430	1.8
30–34	664	3.0	616	2.8	626	2.8	674	3.0	758	3.3
35–39	870	4.1	879	4.1	832	3.8	872	4.0	908	4.1
40–44	1,161	5.8	1,005	5.1	988	5.0	970	4.8	1,107	5.4
45–49	1,864	8.8	1,795	8.5	1,637	7.8	1,431	6.9	1,441	7.1
50–54	2,910	13.2	2,803	13.0	2,634	12.5	2,305	11.1	2,265	11.0
55–59	3,060	13.8	3,053	13.8	3,001	13.5	2,961	13.4	3,235	14.8
60–64	2,468	12.5	2,531	12.6	2,575	12.5	2,716	13.1	3,076	14.6
≥65	3,173	6.4	3,475	6.8	3,724	7.0	4,086	7.5	5,124	9.1
Race/ethnicity										
American Indian/Alaska Native	47	—	47	—	48	—	58	—	78	—
Asian ^d	100	—	88	—	84	—	101	—	97	—
Black/African American	7,243	—	7,204	—	6,984	—	6,994	—	7,932	—
Hispanic/Latino ^e	3,039	—	3,099	—	3,203	—	3,092	—	3,570	—
Native Hawaiian/other Pacific Islander	16	—	9	—	16	—	16	—	10	—
White	5,311	—	5,240	—	5,152	—	5,236	—	5,516	—
Multiracial	1,034	—	1,074	—	1,092	—	1,090	—	1,290	—

Table 11b. Deaths of persons with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Transmission category^f										
Male sex at birth (≥13 yrs at death)^g										
Male-to-male sexual contact	6,968	—	7,063	—	6,972	—	7,250	—	7,874	—
Injection drug use	2,403	—	2,302	—	2,295	—	2,191	—	2,424	—
Male-to-male sexual contact and injection drug use	1,423	—	1,396	—	1,467	—	1,390	—	1,621	—
Heterosexual contact ^h	1,766	—	1,783	—	1,664	—	1,742	—	1,923	—
Perinatal ⁱ	46	—	42	—	58	—	44	—	57	—
Other ^j	63	—	67	—	58	—	55	—	64	—
Subtotal	12,669	9.5	12,654	9.4	12,513	9.2	12,671	9.3	13,963	10.2
Female sex at birth (≥13 yrs at death)^g										
Injection drug use	1,425	—	1,416	—	1,356	—	1,335	—	1,450	—
Heterosexual contact ^h	2,620	—	2,619	—	2,644	—	2,519	—	2,995	—
Perinatal ⁱ	51	—	44	—	38	—	38	—	44	—
Other ^j	27	—	29	—	27	—	27	—	37	—
Subtotal	4,123	2.9	4,107	2.9	4,065	2.9	3,918	2.7	4,526	3.2
Child (<13 yrs at death)										
Perinatal	1	—	2	—	1	—	1	—	3	—
Other ^j	0	—	0	—	0	—	1	—	1	—
Subtotal	1	0.0	2	0.0	1	0.0	2	0.0	4	0.0
Region of residence^k										
Northeast	3,709	6.6	3,699	6.6	3,529	6.3	3,632	6.5	4,426	7.9
Midwest	1,858	2.7	1,916	2.8	2,004	2.9	1,939	2.8	2,230	3.3
South	8,049	6.6	7,997	6.5	7,870	6.3	7,894	6.3	8,608	6.8
West	2,756	3.6	2,740	3.5	2,807	3.6	2,767	3.5	2,900	3.7
U.S. dependent areas	421	11.1	411	11.0	369	10.3	359	10.0	329	9.3
Total^l	16,793	5.1	16,763	5.1	16,579	5.0	16,591	5.0	18,493	5.6

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data. Rates by race/ethnicity are not provided because U.S. census information is limited for U.S. dependent areas.

^b “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^c Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^d Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^e Hispanic/Latino persons can be of any race.

^f Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^g Data presented include transgender and additional gender identity persons.

^h Sexual contact with a person known to have, or with a risk factor for, HIV infection.

ⁱ Include individuals aged ≥13 years at time of diagnosis of HIV infection.

^j Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^k Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

^l Includes persons whose race/ethnicity is unknown.

Table 12a. Deaths of persons with diagnosed HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States

	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Gender																
Male	41	—	79	—	5,331	—	2,497	—	8	—	4,672	—	902	—	13,530	—
Female	33	—	15	—	2,502	—	697	—	1	—	820	—	369	—	4,437	—
Transgender woman/girl ^e	4	—	3	—	94	—	49	—	1	—	20	—	17	—	188	—
Transgender man/boy ^e	0	—	0	—	3	—	2	—	0	—	2	—	2	—	9	—
Additional gender identity ^f	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
Age at death (yr)																
<13	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	2	0.0	0	0.0	4	0.0
13–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	0	0.0	7	0.2	2	0.0	0	0.0	4	0.0	1	0.1	14	0.1
20–24	0	0.0	3	0.2	76	2.5	27	0.6	0	0.0	18	0.2	7	1.0	131	0.6
25–29	2	1.0	5	0.3	210	6.1	92	1.9	0	0.0	89	0.7	30	4.9	428	1.8
30–34	8	4.4	2	0.1	367	11.6	142	3.0	2	3.7	182	1.4	51	10.9	754	3.3
35–39	7	4.4	9	0.6	407	14.6	167	3.7	1	2.0	238	1.9	60	15.6	889	4.1
40–44	4	2.7	8	0.5	515	19.8	216	5.1	2	4.7	257	2.2	76	23.4	1,078	5.3
45–49	9	6.4	7	0.5	642	25.5	280	7.2	0	0.0	365	3.1	107	38.6	1,410	7.1
50–54	11	7.7	14	1.1	886	35.2	443	13.1	2	5.6	717	5.6	152	62.2	2,225	10.9
55–59	11	7.1	12	1.1	1,280	49.3	548	18.7	1	2.9	1,053	7.2	261	111.1	3,166	14.7
60–64	9	6.2	16	1.6	1,370	57.3	486	20.9	1	3.3	927	6.3	220	104.4	3,029	14.6
≥65	17	5.4	21	0.8	2,168	41.8	842	17.2	1	1.6	1,662	3.9	325	71.6	5,036	9.0
Transmission category^g																
Male sex at birth (≥13 yrs at death)^h																
Male-to-male sexual contact	30	—	60	—	2,516	—	1,404	—	6	—	3,289	—	498	—	7,801	—
Injection drug use	7	—	4	—	1,154	—	525	—	0	—	472	—	164	—	2,327	—
Male-to-male sexual contact and injection drug use	5	—	6	—	448	—	315	—	1	—	660	—	160	—	1,595	—
Heterosexual contact ⁱ	3	—	12	—	1,256	—	281	—	2	—	232	—	88	—	1,873	—
Perinatal ^j	0	—	0	—	33	—	13	—	0	—	4	—	6	—	56	—
Other ^k	0	—	1	—	18	—	9	—	0	—	34	—	3	—	64	—
Subtotal	45	4.6	82	1.1	5,424	33.5	2,546	10.6	9	3.6	4,691	5.6	919	37.6	13,716	10.1
Female sex at birth (≥13 yrs at death)^h																
Injection drug use	14	—	3	—	643	—	263	—	0	—	379	—	123	—	1,425	—
Heterosexual contact ⁱ	19	—	12	—	1,820	—	423	—	1	—	427	—	238	—	2,939	—
Perinatal ^j	0	—	0	—	29	—	8	—	0	—	1	—	6	—	44	—
Other ^k	0	—	1	—	13	—	6	—	0	—	14	—	4	—	37	—
Subtotal	33	3.2	15	0.2	2,504	13.8	699	2.9	1	0.4	821	0.9	371	14.4	4,444	3.1
Child (<13 yrs at death)																
Perinatal	0	—	0	—	2	—	0	—	0	—	1	—	0	—	3	—
Other ^k	0	—	0	—	0	—	0	—	0	—	1	—	0	—	1	—
Subtotal	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	2	0.0	0	0.0	4	0.0

Table 12a. Deaths of persons with diagnosed HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States (cont)

	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Region of residenceⁱ																
Northeast	0	0.0	21	0.5	1,763	27.8	1,313	15.6	0	0.0	909	2.5	420	41.5	4,426	7.9
Midwest	8	1.9	11	0.5	969	13.4	182	3.2	0	0.0	890	1.7	170	11.8	2,230	3.3
South	27	3.3	17	0.4	4,699	19.4	1,007	4.3	2	2.0	2,351	3.3	505	19.9	8,608	6.8
West	43	4.0	48	0.6	499	13.7	743	3.1	8	1.8	1,364	3.5	195	7.6	2,900	3.7
Total	78	3.2	97	0.5	7,930	19.1	3,245	5.3	10	1.6	5,514	2.8	1,290	17.1	18,164	5.5

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^b Hispanic/Latino persons can be of any race.

^c Includes persons whose race/ethnicity is unknown.

^d Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^e “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^f Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^g Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^h Data include transgender and additional gender identity persons.

ⁱ Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^j Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^k Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^l Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

Table 12b. Deaths of persons with diagnosed HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas

	American Indian/ Alaska Native No.	Asian ^a No.	Black/African American No.	Hispanic/Latino ^b No.	Native Hawaiian/ other Pacific Islander No.	White No.	Multiracial No.	Total ^c No.
Gender								
Male	41	79	5,332	2,740	8	4,674	902	13,776
Female	33	15	2,503	778	1	820	369	4,519
Transgender woman/girl ^d	4	3	94	50	1	20	17	189
Transgender man/boy ^d	0	0	3	2	0	2	2	9
Additional gender identity ^e	0	0	0	0	0	0	0	0
Age at death (yr)								
<13	0	0	2	0	0	2	0	4
13–14	0	0	0	0	0	0	0	0
15–19	0	0	7	2	0	4	1	14
20–24	0	3	76	27	0	18	7	131
25–29	2	5	210	94	0	89	30	430
30–34	8	2	367	146	2	182	51	758
35–39	7	9	407	186	1	238	60	908
40–44	4	8	515	245	2	257	76	1,107
45–49	9	7	642	311	0	365	107	1,441
50–54	11	14	886	482	2	718	152	2,265
55–59	11	12	1,281	616	1	1,053	261	3,235
60–64	9	16	1,370	533	1	927	220	3,076
≥65	17	21	2,169	928	1	1,663	325	5,124
Transmission category^f								
Male sex at birth (≥13 yrs at death)^g								
Male-to-male sexual contact	30	60	2,516	1,475	6	3,290	498	7,874
Injection drug use	7	4	1,154	622	0	472	164	2,424
Male-to-male sexual contact and injection drug use	5	6	448	341	1	661	160	1,621
Heterosexual contact ^h	3	12	1,257	329	2	232	88	1,922
Perinatal ⁱ	0	0	33	14	0	4	6	57
Other ^j	0	1	18	9	0	34	3	64
Subtotal	45	82	5,425	2,790	9	4,693	919	13,963
Female sex at birth (≥13 yrs at death)^g								
Injection drug use	14	3	643	288	0	379	123	1,450
Heterosexual contact ^h	19	12	1,821	478	1	427	238	2,995
Perinatal ⁱ	0	0	29	8	0	1	6	44
Other ^j	0	1	13	6	0	14	4	37
Subtotal	33	15	2,505	780	1	821	371	4,526
Child (<13 yrs at death)								
Perinatal	0	0	2	0	0	1	0	3
Other ^j	0	0	0	0	0	1	0	1
Subtotal	0	0	2	0	0	2	0	4

Table 12b. Deaths of persons with diagnosed HIV infection, by race/ethnicity and selected characteristics, 2020 (COVID-19 pandemic)—United States and 6 dependent areas (cont)

	American Indian/ Alaska Native	Asian ^a	Black/African American	Hispanic/Latino ^b	Native Hawaiian/ other Pacific Islander	White	Multiracial	Total ^c
	No.	No.	No.	No.	No.	No.	No.	No.
Region of residence^k								
Northeast	0	21	1,763	1,313	0	909	420	4,426
Midwest	8	11	969	182	0	890	170	2,230
South	27	17	4,699	1,007	2	2,351	505	8,608
West	43	48	499	743	8	1,364	195	2,900
U.S. dependent areas	0	0	2	325	0	2	0	329
Total	78	97	7,932	3,570	10	5,516	1,290	18,493

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12 should be interpreted with caution.

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^b Hispanic/Latino persons can be of any race.

^c Includes persons whose race/ethnicity is unknown.

^d “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^e Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^f Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^g Data include transgender and additional gender identity persons.

^h Sexual contact with a person known to have, or with a risk factor for, HIV infection.

ⁱ Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^j Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^k Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

Table 13a. Deaths of persons aged ≥13 years with diagnosed HIV infection, by year of death, sex assigned at birth, and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at death (yr)										
13–14	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0
15–19	5	0.0	5	0.0	5	0.0	8	0.1	10	0.1
20–24	111	1.0	112	1.0	95	0.9	94	0.8	101	0.9
25–29	350	3.0	347	2.9	346	2.9	368	3.1	334	2.8
30–34	474	4.3	446	4.0	464	4.1	510	4.5	571	4.9
35–39	584	5.6	625	5.9	576	5.3	617	5.7	654	6.0
40–44	743	7.6	659	6.8	631	6.5	642	6.5	762	7.5
45–49	1,303	12.6	1,226	11.8	1,127	11.0	976	9.7	971	9.8
50–54	2,125	19.8	2,035	19.4	1,904	18.6	1,651	16.4	1,651	16.4
55–59	2,327	21.8	2,249	21.1	2,255	21.2	2,266	21.3	2,444	23.2
60–64	1,844	19.8	1,933	20.3	1,909	19.6	2,056	20.9	2,322	23.3
≥65	2,477	11.4	2,714	12.1	2,908	12.5	3,206	13.3	3,896	15.7
Race/ethnicity										
American Indian/Alaska Native	38	4.0	33	3.4	33	3.4	39	4.0	45	4.6
Asian ^c	87	1.2	73	1.0	73	1.0	93	1.2	82	1.1
Black/African American	4,855	31.2	4,909	31.2	4,708	29.6	4,791	29.9	5,424	33.5
Hispanic/Latino ^d	2,033	9.2	2,109	9.3	2,257	9.7	2,174	9.2	2,546	10.6
Native Hawaiian/other Pacific Islander	10	4.3	5	2.1	12	5.0	9	3.6	9	3.6
White	4,552	5.4	4,413	5.2	4,320	5.1	4,464	5.3	4,691	5.6
Multiracial	766	36.0	808	36.7	817	35.8	822	34.8	919	37.6
Transmission category^e										
Male-to-male sexual contact	6,889	—	6,992	—	6,893	—	7,177	—	7,801	—
Injection drug use	2,270	—	2,170	—	2,173	—	2,071	—	2,327	—
Male-to-male sexual contact and injection drug use	1,391	—	1,372	—	1,444	—	1,366	—	1,595	—
Heterosexual contact ^f	1,690	—	1,709	—	1,602	—	1,685	—	1,873	—
Perinatal ^g	40	—	41	—	52	—	42	—	56	—
Other ^h	63	—	67	—	57	—	55	—	64	—
Region of residenceⁱ										
Northeast	2,628	11.4	2,623	11.4	2,490	10.8	2,586	11.2	3,151	13.6
Midwest	1,475	5.3	1,513	5.4	1,598	5.7	1,554	5.5	1,795	6.4
South	5,838	11.8	5,820	11.6	5,707	11.3	5,861	11.5	6,252	12.1
West	2,403	7.6	2,395	7.5	2,425	7.5	2,394	7.4	2,518	7.7
Subtotal	12,344	9.3	12,351	9.3	12,220	9.1	12,395	9.2	13,716	10.1

Table 13a. Deaths of persons aged ≥13 years with diagnosed HIV infection, by year of death, sex assigned at birth, and selected characteristics, 2016–2020—United States (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Female sex at birth^b										
Age at death (yr)										
13–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	5	0.0	2	0.0	4	0.0	2	0.0	4	0.0
20–24	44	0.4	32	0.3	26	0.2	28	0.3	30	0.3
25–29	94	0.8	98	0.9	73	0.6	65	0.6	94	0.8
30–34	182	1.7	155	1.4	150	1.4	152	1.4	183	1.6
35–39	254	2.4	239	2.3	237	2.2	238	2.2	235	2.2
40–44	387	3.9	311	3.2	327	3.3	290	2.9	316	3.1
45–49	509	4.8	517	4.9	472	4.5	418	4.1	439	4.3
50–54	713	6.4	691	6.4	679	6.4	580	5.6	574	5.5
55–59	658	5.8	722	6.4	675	6.0	643	5.7	722	6.5
60–64	569	5.6	556	5.3	617	5.8	608	5.7	707	6.5
≥65	612	2.2	676	2.4	729	2.5	811	2.7	1,140	3.7
Race/ethnicity										
American Indian/Alaska Native	9	0.9	14	1.4	15	1.5	19	1.9	33	3.2
Asian ^c	13	0.2	15	0.2	11	0.1	8	0.1	15	0.2
Black/African American	2,377	13.6	2,289	13.0	2,275	12.8	2,201	12.3	2,504	13.8
Hispanic/Latino ^d	599	2.7	585	2.6	583	2.6	566	2.4	699	2.9
Native Hawaiian/other Pacific Islander	4	1.7	4	1.7	1	0.4	5	2.0	1	0.4
White	758	0.9	825	0.9	831	1.0	770	0.9	821	0.9
Multiracial	267	11.8	266	11.3	273	11.3	265	10.6	371	14.4
Transmission category^e										
Injection drug use	1,390	—	1,381	—	1,323	—	1,304	—	1,425	—
Heterosexual contact ^f	2,562	—	2,547	—	2,603	—	2,469	—	2,939	—
Perinatal ^g	49	—	43	—	36	—	37	—	44	—
Other ^h	26	—	28	—	27	—	26	—	37	—
Region of residenceⁱ										
Northeast	1,081	4.4	1,076	4.4	1,038	4.2	1,046	4.2	1,273	5.2
Midwest	382	1.3	402	1.4	406	1.4	384	1.3	435	1.5
South	2,211	4.2	2,176	4.1	2,163	4.0	2,032	3.8	2,355	4.3
West	353	1.1	345	1.1	382	1.2	373	1.1	381	1.1
Subtotal	4,027	2.9	3,999	2.9	3,989	2.8	3,835	2.7	4,444	3.1
Total	16,371	6.1	16,350	6.0	16,209	5.9	16,230	5.9	18,160	6.5

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated for transmission category because of the lack of denominator data.

^b Data include transgender and additional gender identity persons.

^c Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on residence at death. When information on residence at death was not available, state at death (where a person's death occurred) was used.

Table 13b. Death of persons aged ≥13 years with diagnosed HIV infection, by year of death, sex assigned at birth, and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at death (yr)										
13–14	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0
15–19	6	0.1	5	0.0	5	0.0	8	0.1	10	0.1
20–24	114	1.0	113	1.0	99	0.9	96	0.9	101	0.9
25–29	356	3.0	351	2.9	353	2.9	372	3.1	336	2.8
30–34	479	4.3	456	4.1	472	4.2	516	4.5	573	4.9
35–39	609	5.8	636	5.9	589	5.4	628	5.7	669	6.1
40–44	763	7.7	687	7.0	655	6.6	669	6.7	786	7.7
45–49	1,346	12.9	1,267	12.1	1,154	11.1	1,003	9.8	989	9.9
50–54	2,181	20.1	2,094	19.7	1,942	18.7	1,711	16.8	1,681	16.5
55–59	2,384	22.1	2,307	21.4	2,311	21.5	2,306	21.4	2,495	23.5
60–64	1,889	20.1	1,962	20.4	1,951	19.9	2,097	21.1	2,356	23.4
≥65	2,541	11.5	2,776	12.2	2,982	12.6	3,264	13.4	3,967	15.8
Race/ethnicity										
American Indian/Alaska Native	38	—	33	—	33	—	39	—	45	—
Asian ^c	87	—	73	—	73	—	93	—	82	—
Black/African American	4,862	—	4,913	—	4,708	—	4,792	—	5,425	—
Hispanic/Latino ^d	2,349	—	2,407	—	2,546	—	2,443	—	2,790	—
Native Hawaiian/other Pacific Islander	11	—	5	—	13	—	11	—	9	—
White	4,552	—	4,414	—	4,321	—	4,466	—	4,693	—
Multiracial	767	—	808	—	819	—	824	—	919	—
Transmission category^e										
Male-to-male sexual contact	6,968	—	7,063	—	6,972	—	7,249	—	7,874	—
Injection drug use	2,403	—	2,302	—	2,295	—	2,191	—	2,424	—
Male-to-male sexual contact and injection drug use	1,423	—	1,396	—	1,467	—	1,390	—	1,621	—
Heterosexual contact ^f	1,766	—	1,783	—	1,664	—	1,742	—	1,923	—
Perinatal ^g	46	—	42	—	58	—	44	—	57	—
Other ^h	63	—	67	—	58	—	55	—	64	—
Region of residenceⁱ										
Northeast	2,628	11.4	2,623	11.4	2,490	10.8	2,586	11.2	3,151	13.6
Midwest	1,475	5.3	1,513	5.4	1,598	5.7	1,554	5.5	1,795	6.4
South	5,838	11.8	5,820	11.6	5,707	11.3	5,861	11.5	6,252	12.1
West	2,403	7.6	2,395	7.5	2,425	7.5	2,394	7.4	2,518	7.7
U.S. dependent areas	325	21.2	303	20.0	293	19.9	276	18.7	247	16.8
Subtotal	12,669	9.5	12,654	9.4	12,513	9.2	12,671	9.3	13,963	10.2

Table 13b. Death of persons aged ≥13 years with diagnosed HIV infection, by year of death, sex assigned at birth, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Female sex at birth^b										
Age at death (yr)										
13–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	5	0.0	2	0.0	4	0.0	2	0.0	4	0.0
20–24	45	0.4	33	0.3	26	0.2	28	0.3	30	0.3
25–29	95	0.8	100	0.9	74	0.6	67	0.6	94	0.8
30–34	185	1.7	160	1.5	154	1.4	158	1.4	185	1.6
35–39	261	2.5	243	2.3	243	2.2	244	2.2	239	2.2
40–44	398	4.0	318	3.2	333	3.3	301	3.0	321	3.1
45–49	518	4.9	528	4.9	483	4.6	428	4.1	452	4.4
50–54	729	6.5	709	6.5	692	6.5	594	5.6	584	5.6
55–59	676	5.9	746	6.5	690	6.1	655	5.8	740	6.6
60–64	579	5.6	569	5.4	624	5.8	619	5.7	720	6.6
≥65	632	2.3	699	2.4	742	2.5	822	2.7	1,157	3.7
Race/ethnicity										
American Indian/Alaska Native	9	—	14	—	15	—	19	—	33	—
Asian ^c	13	—	15	—	11	—	8	—	15	—
Black/African American	2,380	—	2,290	—	2,275	—	2,201	—	2,505	—
Hispanic/Latino ^d	690	—	692	—	657	—	648	—	780	—
Native Hawaiian/other Pacific Islander	5	—	4	—	3	—	5	—	1	—
White	759	—	825	—	831	—	770	—	821	—
Multiracial	267	—	266	—	273	—	266	—	371	—
Transmission category^e										
Injection drug use	1,425	—	1,416	—	1,356	—	1,335	—	1,450	—
Heterosexual contact ^f	2,620	—	2,619	—	2,644	—	2,519	—	2,995	—
Perinatal ^g	51	—	44	—	38	—	38	—	44	—
Other ^h	27	—	29	—	27	—	27	—	37	—
Region of residenceⁱ										
Northeast	1,081	4.4	1,076	4.4	1,038	4.2	1,046	4.2	1,273	5.2
Midwest	382	1.3	402	1.4	406	1.4	384	1.3	435	1.5
South	2,211	4.2	2,176	4.1	2,163	4.0	2,032	3.8	2,355	4.3
West	353	1.1	345	1.1	382	1.2	373	1.1	381	1.1
U.S. dependent areas	96	5.6	108	6.4	76	4.6	83	5.0	82	5.0
Subtotal	4,123	2.9	4,107	2.9	4,065	2.9	3,918	2.7	4,526	3.2
Total	16,792	6.1	16,761	6.1	16,578	6.0	16,589	5.9	18,489	6.6

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates and trends based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated for transmission category because of the lack of denominator data. Rates by race/ethnicity are not provided because U.S. census information is limited for U.S. dependent areas.

^b Data include transgender and additional gender identity persons.

^c Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on residence at death. When information on residence at death was not available, state at death (where a person's death occurred) was used.

Table 14a. Deaths of transgender and additional gender identity persons aged ≥13 years with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	1	2	1	5	7
25–29	10	8	12	17	15
30–34	10	9	9	19	26
35–39	13	15	13	16	26
40–44	12	13	12	17	21
45–49	21	18	12	17	25
50–54	13	10	19	17	19
55–59	17	18	17	17	24
60–64	11	7	11	12	12
≥65	12	6	11	7	13
Race/ethnicity					
American Indian/Alaska Native	0	0	2	1	4
Asian ^b	3	0	2	1	3
Black/African American	55	43	45	69	94
Hispanic/Latino ^c	27	36	34	33	49
Native Hawaiian/other Pacific Islander	1	1	0	0	1
White	22	18	21	23	20
Multiracial	12	8	13	17	17
Exposure category^d					
Sexual contact ^e	83	77	77	98	128
Injection drug use	0	0	0	1	2
Sexual contact ^e and injection drug use	33	26	38	39	53
Other ^f	4	3	2	6	5
Region of residence^g					
Northeast	27	25	32	39	58
Midwest	12	11	11	22	22
South	41	39	42	54	63
West	40	31	32	29	45
Subtotal	120	106	117	144	188
Transgender man^a					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	0	0	0	0	1
25–29	0	0	0	1	0
30–34	0	1	0	0	1
35–39	2	0	0	0	1
40–44	0	0	0	0	2
45–49	0	1	2	0	1
50–54	0	0	1	1	0
55–59	0	2	1	1	1
60–64	0	0	0	2	1
≥65	0	1	1	0	1
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian ^b	0	0	0	0	0
Black/African American	1	3	0	1	3
Hispanic/Latino ^c	0	1	2	2	2
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	1	0	2	1	2
Multiracial	0	1	1	1	2
Exposure category^d					
Sexual contact ^e	2	3	0	3	6
Injection drug use	0	0	0	0	0
Sexual contact ^e and injection drug use	0	2	5	1	3
Other ^f	0	0	0	1	0
Region of residence^g					
Northeast	0	1	0	1	2
Midwest	0	0	1	1	2
South	2	3	3	3	3
West	0	1	1	0	2
Subtotal	2	5	5	5	9

Table 14a. Deaths of transgender and additional gender identity persons aged ≥13 years with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Additional gender identity^h					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	0	0	0	0	0
25–29	0	0	0	0	0
30–34	1	1	0	0	0
35–39	0	0	0	0	0
40–44	0	0	0	1	0
45–49	0	0	0	0	0
50–54	0	0	0	0	0
55–59	0	1	1	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian ^b	0	0	0	0	0
Black/African American	1	0	0	1	0
Hispanic/Latino ^c	0	1	1	0	0
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	0	1	0	0	0
Multiracial	0	0	0	0	0
Exposure category^d					
Sexual contact ^e	1	1	0	1	0
Injection drug use	0	0	0	0	0
Sexual contact ^e and injection drug use	0	1	1	0	0
Other ^f	0	0	0	0	0
Region of residence^g					
Northeast	0	1	0	1	0
Midwest	0	1	0	0	0
South	0	0	0	0	0
West	1	0	1	0	0
Subtotal	1	2	1	1	0
Total	123	113	123	150	197

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

^a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^c Hispanic/Latino persons can be of any race.

^d Classification of persons aged ≥13 years based on their risk factors that may have been responsible for HIV transmission; classification has no presume hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. The categories are mutually exclusive. Data were not statistically adjusted to account for missing exposure category.

^e For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

^f Other risk factors, including perinatal transmission, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

^g Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

^h Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 14b. Deaths of transgender and additional gender identity persons aged ≥13 years with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	1	2	1	5	7
25–29	10	8	12	17	15
30–34	10	9	9	19	26
35–39	13	16	13	16	26
40–44	12	13	12	17	21
45–49	21	18	12	18	25
50–54	13	11	19	17	20
55–59	17	18	17	17	24
60–64	11	7	11	12	12
≥65	12	6	12	8	13
Race/ethnicity					
American Indian/Alaska Native	0	0	2	1	4
Asian ^b	3	0	2	1	3
Black/African American	55	43	45	69	94
Hispanic/Latino ^c	27	38	35	35	50
Native Hawaiian/other Pacific Islander	1	1	0	0	1
White	22	18	21	23	20
Multiracial	12	8	13	17	17
Exposure category^d					
Sexual contact ^e	83	77	78	98	129
Injection drug use	0	0	0	1	2
Sexual contact ^e and injection drug use	33	28	38	41	53
Other ^f	4	3	2	6	5
Region of residence^g					
Northeast	27	25	32	39	58
Midwest	12	11	11	22	22
South	41	39	42	54	63
West	40	31	32	29	45
U.S. dependent areas	0	2	1	2	1
Subtotal	120	108	118	146	189
Transgender man^a					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	0	0	0	0	1
25–29	0	0	0	1	0
30–34	0	1	0	0	1
35–39	2	0	0	0	1
40–44	0	0	0	0	2
45–49	0	1	2	0	1
50–54	0	0	1	1	0
55–59	0	2	1	1	1
60–64	0	0	0	2	1
≥65	0	1	1	0	1
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian ^b	0	0	0	0	0
Black/African American	1	3	0	1	3
Hispanic/Latino ^c	0	1	2	2	2
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	1	0	2	1	2
Multiracial	0	1	1	1	2
Exposure category^d					
Sexual contact ^e	2	3	0	3	6
Injection drug use	0	0	0	0	0
Sexual contact ^e and injection drug use	0	2	5	1	3
Other ^f	0	0	0	1	0
Region of residence^g					
Northeast	0	1	0	1	2
Midwest	0	0	1	1	2
South	2	3	3	3	3
West	0	1	1	0	2
U.S. dependent areas	0	0	0	0	0
Subtotal	2	5	5	5	9

Table 14b. Deaths of transgender and additional gender identity persons aged ≥13 years with diagnosed HIV infection, by year of death and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Additional gender identity^h					
Age at death (yr)					
13–14	0	0	0	0	0
15–19	0	0	0	0	0
20–24	0	0	0	0	0
25–29	0	0	0	0	0
30–34	1	1	0	0	0
35–39	0	0	0	0	0
40–44	0	0	0	1	0
45–49	0	0	0	0	0
50–54	0	0	0	0	0
55–59	0	1	1	0	0
60–64	0	0	0	0	0
≥65	0	0	0	0	0
Race/ethnicity					
American Indian/Alaska Native	0	0	0	0	0
Asian ^b	0	0	0	0	0
Black/African American	1	0	0	1	0
Hispanic/Latino ^c	0	1	1	0	0
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	0	1	0	0	0
Multiracial	0	0	0	0	0
Exposure category^d					
Sexual contact ^e	1	1	0	1	0
Injection drug use	0	0	0	0	0
Sexual contact ^e and injection drug use	0	1	1	0	0
Other ^f	0	0	0	0	0
Region of residence^g					
Northeast	0	1	0	1	0
Midwest	0	1	0	0	0
South	0	0	0	0	0
West	1	0	1	0	0
U.S. dependent areas	0	0	0	0	0
Subtotal	1	2	1	1	0
Total	123	115	124	152	198

Note. Deaths of persons with a diagnosis of HIV infection may be due to any cause. Data for the year 2020 are preliminary and based on deaths reported to the Centers for Disease Control and Prevention through December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

c Hispanic/Latino persons can be of any race.

d Classification of persons aged ≥13 years based on their risk factors that may have been responsible for HIV transmission; classification has no presume hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. The categories are mutually exclusive. Data were not statistically adjusted to account for missing exposure category.

e For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

f Other risk factors, including perinatal transmission, hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

g Data are based on residence at death. When information on residence at death was not available, state at death (where a person’s death occurred) was used.

h Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 15a. Persons living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	731,528	—	750,778	—	769,364	—	787,151	—	798,697	—
Female	231,679	—	235,624	—	239,274	—	242,869	—	244,205	—
Transgender woman/girl ^b	9,855	—	10,378	—	10,918	—	11,466	—	11,949	—
Transgender man/boy ^b	362	—	390	—	437	—	479	—	509	—
Additional gender identity ^c	166	—	184	—	202	—	226	—	243	—
Age at end of year (yr)										
<13	2,210	4.2	2,057	3.9	1,894	3.6	1,669	3.2	1,444	2.8
13–14	679	8.3	669	8.1	666	8.0	650	7.8	640	7.6
15–19	4,639	21.9	4,536	21.5	4,358	20.7	4,238	20.1	3,778	18.0
20–24	29,783	133.2	28,381	128.6	26,949	123.5	25,982	120.0	24,186	112.0
25–29	68,250	297.5	70,339	301.1	70,809	300.7	69,281	294.3	65,455	281.8
30–34	78,999	361.8	82,684	376.5	87,608	395.8	93,030	414.1	97,029	424.9
35–39	89,346	429.9	91,617	432.3	93,487	433.8	95,411	438.6	96,659	442.8
40–44	97,070	493.3	95,806	489.4	96,455	490.0	97,980	491.9	100,348	494.1
45–49	135,715	649.1	129,676	620.5	123,026	593.9	116,855	573.1	109,234	547.0
50–54	165,941	761.3	162,434	761.5	157,168	753.6	150,353	734.5	145,107	711.5
55–59	135,369	617.0	143,953	656.0	152,372	695.3	159,672	730.1	162,542	752.4
60–64	87,269	448.7	95,802	480.7	103,919	511.8	111,790	543.7	120,013	577.0
≥65	78,320	159.2	89,400	176.1	101,484	193.8	115,280	213.3	129,168	232.1
Race/ethnicity										
American Indian/Alaska Native	2,690	112.9	2,848	118.8	2,976	123.5	3,124	129.0	3,248	133.5
Asian ^d	12,948	72.5	13,908	75.8	14,795	79.0	15,558	81.6	16,198	83.6
Black/African American	396,530	985.3	406,215	1,000.8	415,577	1,016.1	424,689	1,031.0	430,015	1,038.0
Hispanic/Latino ^e	217,205	379.2	225,188	385.6	233,010	391.8	240,872	398.8	246,097	401.4
Native Hawaiian/other Pacific Islander	738	129.5	777	133.4	827	139.3	880	145.7	936	152.6
White	290,404	146.7	294,999	149.1	299,442	151.6	303,443	153.8	305,956	155.5
Multiracial	52,339	768.6	52,685	752.2	52,834	734.6	52,895	717.1	52,423	693.7

Table 15a. Persons living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Transmission category^f										
Male sex at birth (≥13 yrs at end of year)^g										
Male-to-male sexual contact	531,004	—	550,084	—	568,405	—	586,044	—	599,433	—
Injection drug use	68,935	—	68,166	—	67,525	—	66,954	—	65,912	—
Male-to-male sexual contact and injection drug use	56,977	—	57,124	—	57,180	—	57,361	—	56,882	—
Heterosexual contact ^h	76,039	—	77,339	—	78,725	—	79,821	—	80,035	—
Perinatal ⁱ	4,732	—	4,832	—	4,928	—	5,051	—	5,135	—
Other ^j	2,799	—	2,800	—	2,791	—	2,794	—	2,783	—
Subtotal	740,486	560.5	760,344	570.9	779,554	581.3	798,026	591.2	810,180	596.8
Female sex at birth (≥13 yrs at end of year)^g										
Injection drug use	49,201	—	48,995	—	48,837	—	48,727	—	48,195	—
Heterosexual contact ^h	174,674	—	178,746	—	182,501	—	186,172	—	188,033	—
Perinatal ⁱ	5,351	—	5,532	—	5,713	—	5,876	—	6,015	—
Other ^j	1,668	—	1,680	—	1,697	—	1,722	—	1,736	—
Subtotal	230,894	167.1	234,953	168.8	238,747	170.3	242,496	171.9	243,979	172.0
Child (<13 yrs at end of year)										
Perinatal	1,827	—	1,701	—	1,548	—	1,372	—	1,194	—
Other ^j	383	—	356	—	346	—	297	—	250	—
Subtotal	2,210	4.2	2,057	3.9	1,894	3.6	1,669	3.2	1,444	2.8
Region of residence^k										
Northeast	230,044	410.3	232,022	413.7	234,097	417.4	235,593	420.7	235,337	421.4
Midwest	115,828	170.3	118,984	174.6	122,094	178.9	124,872	182.7	126,929	185.8
South	436,538	356.6	449,534	363.7	461,779	370.5	474,316	377.4	482,479	380.9
West	191,180	249.7	196,814	254.7	202,225	259.8	207,410	264.9	210,858	268.1
Total^l	973,590	301.4	997,354	306.8	1,020,195	312.1	1,042,191	317.4	1,055,603	320.4

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^b "Transgender woman" includes individuals who were assigned "male" sex at birth but have ever identified as "female" gender. "Transgender man" includes individuals who were assigned "female" sex at birth but have ever identified as "male" gender.

^c Additional gender identity examples include "bigender," "gender queer," and "two-spirit."

^d Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^e Hispanic/Latino persons can be of any race.

^f Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^g Data include transgender and additional gender identity persons.

^h Sexual contact with a person known to have, or with a risk factor for, HIV infection.

ⁱ Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^j Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^k Data are based on residence at the end of the specified year (i.e., most recent known address).

^l Includes persons whose race/ethnicity is unknown.

Table 15b. Persons living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Gender										
Male	743,223	—	762,324	—	780,831	—	798,709	—	810,267	—
Female	236,769	—	240,574	—	244,164	—	247,754	—	249,044	—
Transgender woman/girl ^b	9,890	—	10,413	—	10,949	—	11,499	—	11,985	—
Transgender man/boy ^b	363	—	391	—	439	—	481	—	512	—
Additional gender identity ^c	167	—	184	—	203	—	226	—	243	—
Age at end of year (yr)										
<13	2,224	4.2	2,066	3.9	1,900	3.6	1,674	3.2	1,447	2.8
13–14	682	8.2	675	8.1	674	8.0	654	7.8	643	7.6
15–19	4,686	21.9	4,581	21.4	4,400	20.6	4,264	20.0	3,800	17.9
20–24	30,131	133.1	28,677	128.5	27,216	123.3	26,232	119.8	24,403	111.8
25–29	69,013	297.6	71,045	300.9	71,504	300.6	69,966	294.1	66,068	281.4
30–34	79,964	362.5	83,595	377.0	88,485	396.2	93,936	414.3	97,943	424.8
35–39	90,749	431.7	92,903	433.7	94,664	434.9	96,491	439.3	97,688	443.4
40–44	98,741	495.8	97,393	491.7	97,974	492.2	99,438	493.7	101,775	495.8
45–49	138,131	653.0	131,864	623.8	125,006	596.7	118,722	575.7	110,929	549.3
50–54	168,965	766.2	165,360	766.2	159,981	758.2	152,961	738.6	147,624	715.6
55–59	137,939	621.7	146,606	660.7	155,114	700.0	162,572	735.1	165,411	757.1
60–64	89,003	452.3	97,654	484.4	105,941	516.0	113,927	548.0	122,308	581.5
≥65	80,184	160.7	91,467	177.8	103,727	195.5	117,832	215.2	132,012	234.1
Race/ethnicity										
American Indian/Alaska Native	2,692	—	2,850	—	2,978	—	3,126	—	3,250	—
Asian ^d	13,000	—	13,964	—	14,856	—	15,626	—	16,266	—
Black/African American	396,835	—	406,513	—	415,886	—	425,003	—	430,332	—
Hispanic/Latino ^e	233,531	—	241,218	—	248,889	—	256,817	—	262,007	—
Native Hawaiian/other Pacific Islander	767	—	809	—	858	—	912	—	968	—
White	290,485	—	295,085	—	299,526	—	303,536	—	306,048	—
Multiracial	52,363	—	52,710	—	52,856	—	52,916	—	52,447	—

Table 15b. Persons living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Transmission category^f										
Male sex at birth (≥ 13 yrs at diagnosis)^g										
Male-to-male sexual contact	535,741	—	554,845	—	573,263	—	591,073	—	604,590	—
Injection drug use	72,548	—	71,657	—	70,889	—	70,228	—	69,099	—
Male-to-male sexual contact and injection drug use	57,809	—	57,919	—	57,945	—	58,120	—	57,629	—
Heterosexual contact ^h	78,423	—	79,709	—	81,079	—	82,192	—	82,394	—
Perinatal ⁱ	4,864	—	4,963	—	5,058	—	5,183	—	5,265	—
Other ^j	2,826	—	2,827	—	2,817	—	2,820	—	2,808	—
Subtotal	752,210	562.9	771,920	573.1	791,050	583.5	809,615	593.3	821,785	598.9
Female sex at birth (≥ 13 yrs at diagnosis)^g										
Injection drug use	50,248	—	49,985	—	49,792	—	49,670	—	49,114	—
Heterosexual contact ^h	178,573	—	182,568	—	186,307	—	189,994	—	191,832	—
Perinatal ⁱ	5,477	—	5,655	—	5,829	—	5,984	—	6,126	—
Other ^j	1,680	—	1,692	—	1,708	—	1,732	—	1,747	—
Subtotal	235,978	168.7	239,900	170.3	243,636	171.8	247,380	173.3	248,819	173.4
Child (<13 yrs at end of year)										
Perinatal	1,841	—	1,710	—	1,554	—	1,377	—	1,197	—
Other ^j	383	—	356	—	346	—	297	—	250	—
Subtotal	2,224	4.2	2,066	3.9	1,900	3.6	1,674	3.2	1,447	2.8
Region of residence^k										
Northeast	230,044	410.3	232,022	413.7	234,097	417.4	235,593	420.7	235,337	421.4
Midwest	115,828	170.3	118,984	174.6	122,094	178.9	124,872	182.7	126,929	185.8
South	436,538	356.6	449,534	363.7	461,779	370.5	474,316	377.4	482,479	380.9
West	191,180	249.7	196,814	254.7	202,225	259.8	207,410	264.9	210,858	268.1
U.S. dependent areas	16,822	441.9	16,532	443.9	16,391	456.4	16,478	459.0	16,448	462.7
Total^l	990,412	303.0	1,013,886	308.3	1,036,586	313.7	1,058,669	319.0	1,072,051	321.9

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^b “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^c Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

^d Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^e Hispanic/Latino persons can be of any race.

^f Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person’s sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^g Data include transgender and additional gender identity persons.

^h Sexual contact with a person known to have, or with a risk factor for, HIV infection.

ⁱ Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^j Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^k Data are based on residence at the end of the specified year (i.e., most recent known address).

^l Includes persons whose race/ethnicity is unknown.

Table 16a. Persons living with diagnosed HIV infection, by race/ethnicity and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States

	American Indian/ Alaska Native		Asian ^a		Black/ African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Gender																
Male	2,390	—	13,156	—	281,564	—	196,810	—	750	—	264,233	—	39,268	—	798,697	—
Female	796	—	2,830	—	142,547	—	45,181	—	151	—	40,316	—	12,180	—	244,205	—
Transgender woman/girl ^e	57	—	197	—	5,592	—	3,931	—	35	—	1,235	—	902	—	11,949	—
Transgender man/boy ^e	4	—	9	—	219	—	108	—	0	—	124	—	45	—	509	—
Additional gender identity ^f	1	—	6	—	93	—	67	—	0	—	48	—	28	—	243	—
Age at end of year (yr)																
<13	7	1.7	100	3.5	843	11.8	192	1.4	3	2.6	182	0.7	117	4.6	1,444	2.8
13–14	1	1.4	33	7.8	374	32.4	85	3.9	0	0.0	88	2.1	59	16.8	640	7.6
15–19	11	6.3	96	8.7	2,311	81.0	763	14.9	7	16.7	421	3.9	169	21.8	3,778	18.0
20–24	98	54.0	387	31.3	13,509	444.5	5,835	118.9	26	60.6	3,323	28.9	1,003	144.9	24,186	112.0
25–29	268	135.4	1,185	77.4	33,053	961.4	16,688	336.3	80	160.9	10,895	87.6	3,279	538.9	65,455	281.8
30–34	374	206.0	1,792	106.4	46,183	1,460.4	24,545	526.1	122	228.7	18,879	149.6	5,127	1,094.9	97,029	424.9
35–39	392	244.3	1,877	115.2	40,805	1,461.0	26,543	588.1	118	235.9	21,692	176.4	5,227	1,356.2	96,659	442.8
40–44	377	258.8	2,019	137.9	40,593	1,559.5	28,166	665.9	130	303.8	23,833	207.3	5,210	1,606.7	100,348	494.1
45–49	345	246.0	2,392	168.1	43,155	1,711.2	29,123	754.1	99	263.1	28,557	243.9	5,522	1,994.0	109,234	547.0
50–54	452	317.0	2,191	176.7	54,228	2,151.4	34,943	1,031.4	103	288.6	45,675	356.2	7,415	3,034.4	145,107	711.5
55–59	401	258.4	1,629	144.7	59,336	2,284.4	33,620	1,148.7	103	295.8	59,200	407.5	8,092	3,444.3	162,542	752.4
60–64	264	182.6	1,115	109.2	46,380	1,938.4	22,479	965.1	72	238.9	43,863	299.0	5,684	2,696.4	120,013	577.0
≥65	258	81.2	1,382	52.8	49,245	949.8	23,115	473.5	73	113.5	49,348	117.1	5,519	1,215.6	129,168	232.1
Transmission category^g																
Male sex at birth (≥ 13 yrs at end of year)^h																
Male-to-male sexual contact	1,740	—	11,252	—	187,976	—	150,900	—	672	—	217,022	—	29,508	—	599,433	—
Injection drug use	227	—	452	—	30,306	—	18,742	—	23	—	13,429	—	2,662	—	65,912	—
Male-to-male sexual contact and injection drug use	302	—	417	—	15,327	—	13,224	—	48	—	23,153	—	4,363	—	56,882	—
Heterosexual contact ⁱ	159	—	1,068	—	49,490	—	16,185	—	35	—	9,947	—	3,122	—	80,035	—
Perinatal ^j	5	—	60	—	2,930	—	1,223	—	3	—	568	—	338	—	5,135	—
Other ^k	13	—	66	—	803	—	437	—	2	—	1,307	—	150	—	2,783	—
Subtotal	2,445	248.8	13,315	171.1	286,831	1,772.7	200,711	832.6	783	311.5	265,426	316.0	40,143	1,643.1	810,180	596.8
Female sex at birth (≥ 13 yrs at end of year)^h																
Injection drug use	267	—	188	—	22,684	—	9,365	—	25	—	12,648	—	2,953	—	48,194	—
Heterosexual contact ⁱ	510	—	2,459	—	115,289	—	34,215	—	123	—	26,577	—	8,735	—	188,033	—
Perinatal ^j	9	—	63	—	3,565	—	1,350	—	0	—	633	—	388	—	6,015	—
Other ^k	10	—	73	—	803	—	264	—	2	—	490	—	88	—	1,736	—
Subtotal	796	77.2	2,783	31.9	142,341	787.2	45,194	189.7	150	60.3	40,348	46.2	12,163	471.0	243,979	172.0
Child (<13 yrs at end of year)																
Perinatal	6	—	61	—	697	—	180	—	3	—	141	—	106	—	1,194	—
Other ^k	1	—	39	—	146	—	12	—	0	—	41	—	11	—	250	—
Subtotal	7	1.7	100	3.5	843	11.8	192	1.4	3	2.6	182	0.7	117	4.6	1,444	2.8

Table 16a. Persons living with diagnosed HIV infection, by race/ethnicity and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States (cont)

	American Indian/ Alaska Native		Asian ^a		Black/ African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander				White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Region of residenceⁱ																		
Northeast	144	111.9	3,466	88.8	89,494	1,413.6	73,061	869.9	64	282.6	53,710	149.0	15,055	1,487.6	235,337	421.4		
Midwest	397	96.0	1,596	66.0	54,193	751.9	16,018	283.9	50	128.7	48,040	93.9	6,515	450.6	126,929	185.8		
South	793	97.0	3,419	72.8	253,184	1,043.7	84,830	361.6	163	161.2	117,902	166.5	22,034	870.4	482,479	380.9		
West	1,914	178.5	7,717	92.4	33,144	913.0	72,188	303.2	659	146.1	86,304	222.6	8,819	343.4	210,858	268.1		
Total	3,248	133.5	16,198	83.6	430,015	1,038.0	246,097	401.4	936	152.6	305,956	155.5	52,423	693.7	1,055,603	320.4		

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^b Hispanic/Latino persons can be of any race.

^c Includes persons whose race/ethnicity is unknown.

^d Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^e "Transgender woman" includes individuals who were assigned "male" sex at birth but have ever identified as "female" gender. "Transgender man" includes individuals who were assigned "female" sex at birth but have ever identified as "male" gender.

^f Additional gender identity examples include "bigender," "gender queer," and "two-spirit."

^g Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^h Data include transgender and additional gender identity persons.

ⁱ Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^j Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^k Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^l Data are based on residence at the end of the specified year (i.e., most recent known address).

Table 16b. Persons living with diagnosed HIV infection, by race/ethnicity and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas

	American Indian/ Alaska Native No.	Asian ^a No.	Black/ African American No.	Hispanic/Latino ^b No.	Native Hawaiian/ other Pacific Islander No.	White No.	Multiracial No.	Total ^c No.
Gender								
Male	2,392	13,213	281,755	208,010	774	264,307	39,288	810,267
Female	796	2,841	142,673	49,853	158	40,334	12,184	249,044
Transgender woman/girl ^d	57	197	5,592	3,966	36	1,235	902	11,985
Transgender man/boy ^d	4	9	219	111	0	124	45	512
Additional gender identity ^e	1	6	93	67	0	48	28	243
Age at end of year (yr)								
<13	7	100	844	193	4	182	117	1,447
13–14	1	33	374	88	0	88	59	643
15–19	11	96	2,314	781	7	421	170	3,800
20–24	98	387	13,511	6,048	27	3,324	1,003	24,403
25–29	268	1,186	33,059	17,289	83	10,896	3,280	66,068
30–34	374	1,801	46,198	25,421	130	18,884	5,128	97,943
35–39	392	1,882	40,823	27,537	121	21,699	5,229	97,688
40–44	377	2,025	40,614	29,555	134	23,837	5,213	101,775
45–49	345	2,401	43,196	30,755	101	28,563	5,525	110,929
50–54	453	2,202	54,288	37,358	108	45,695	7,420	147,624
55–59	401	1,641	59,374	36,418	104	59,218	8,094	165,411
60–64	265	1,123	46,421	24,704	74	43,878	5,687	122,308
≥65	258	1,389	49,316	25,860	75	49,363	5,522	132,012
Transmission category^f								
Male sex at birth (≥ 13 yrs at end of year)^g								
Male-to-male sexual contact	1,741	11,299	188,059	155,825	692	217,085	29,524	604,590
Injection drug use	227	458	30,341	21,884	24	13,432	2,663	69,099
Male-to-male sexual contact and injection drug use	302	419	15,333	13,955	50	23,157	4,365	57,629
Heterosexual contact ^h	160	1,070	49,553	18,471	38	9,951	3,122	82,394
Perinatal ⁱ	5	60	2,932	1,350	3	568	338	5,265
Other ^j	13	66	803	462	2	1,307	150	2,808
Subtotal	2,447	13,372	287,021	211,946	808	265,500	40,163	821,785
Female sex at birth (≥ 13 yrs at end of year)^g								
Injection drug use	267	190	22,698	10,262	25	12,652	2,953	49,114
Heterosexual contact ^h	510	2,468	115,394	37,878	129	26,590	8,738	191,832
Perinatal ⁱ	9	63	3,569	1,455	0	634	389	6,126
Other ^j	10	73	806	273	2	490	88	1,747
Subtotal	796	2,794	142,467	49,868	156	40,366	12,167	248,819
Child (<13 yrs at end of year)								
Perinatal	6	61	698	181	4	141	106	1,197
Other ^j	1	39	146	12	0	41	11	250
Subtotal	7	100	844	193	4	182	117	1,447

Table 16b. Persons living with diagnosed HIV infection, by race/ethnicity and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas (cont)

	American Indian/ Alaska Native No.	Asian ^a No.	Black/ African American No.	Hispanic/Latino ^b No.	Native Hawaiian/ other Pacific Islander No.	White No.	Multiracial No.	Total ^c No.
Region of residence^k								
Northeast	144	3,466	89,494	73,061	64	53,710	15,055	235,337
Midwest	397	1,596	54,193	16,018	50	48,040	6,515	126,929
South	793	3,419	253,184	84,830	163	117,902	22,034	482,479
West	1,914	7,717	33,144	72,188	659	86,304	8,819	210,858
U.S. dependent areas	2	68	317	15,910	32	92	24	16,448
Total	3,250	16,266	430,332	262,007	968	306,048	52,447	1,072,051

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12 should be interpreted with caution.

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^b Hispanic/Latino persons can be of any race.

^c Includes persons whose race/ethnicity is unknown.

^d Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^e "Transgender woman" includes individuals who were assigned "male" sex at birth but have ever identified as "female" gender. "Transgender man" includes individuals who were assigned "female" sex at birth but have ever identified as "male" gender.

^f Additional gender identity examples include "bigender," "gender queer," and "two-spirit."

^g Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^h Data include transgender and additional gender identity persons.

ⁱ Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^j Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^k Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

^l Data are based on residence at the end of the specified year (i.e., most recent known address).

Table 17a. Persons aged ≥13 years living with diagnosed HIV infection, by year, sex assigned at birth, and selected characteristics, 2016–2020—United States

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at end of year										
13–14	312	7.5	301	7.1	297	7.0	307	7.2	311	7.2
15–19	2,970	27.5	2,975	27.6	2,874	26.7	2,851	26.5	2,484	23.2
20–24	24,180	210.5	23,116	204.3	22,054	197.4	21,352	192.9	20,028	181.5
25–29	56,654	485.5	58,961	495.6	59,617	496.3	58,592	487.4	55,458	467.0
30–34	62,180	565.4	66,146	596.9	71,411	638.4	76,736	674.9	80,877	699.1
35–39	65,199	627.8	67,959	641.3	70,426	653.2	73,036	670.5	75,411	689.5
40–44	68,340	699.6	67,682	696.4	68,409	699.4	70,302	709.7	72,953	721.7
45–49	100,825	973.6	95,155	919.4	89,532	873.5	84,079	833.9	77,840	788.4
50–54	127,883	1,194.2	124,711	1,189.4	119,807	1,167.4	113,689	1,127.6	108,763	1,082.0
55–59	104,044	975.7	110,687	1,037.3	117,372	1,101.2	123,071	1,156.8	125,217	1,191.2
60–64	67,133	722.0	73,524	771.6	79,467	817.8	85,326	866.1	91,643	918.5
≥65	60,766	279.0	69,127	306.9	78,288	336.4	88,685	368.6	99,195	399.6
Race/ethnicity										
American Indian/Alaska Native	1,973	208.0	2,100	219.3	2,212	228.9	2,333	239.3	2,445	248.8
Asian ^c	10,526	147.9	11,352	155.0	12,118	161.7	12,767	167.0	13,315	171.1
Black/African American	260,259	1,670.9	267,629	1,700.2	274,927	1,730.0	282,113	1,758.4	286,831	1,772.7
Hispanic/Latino ^d	174,395	788.3	181,561	802.0	188,627	814.8	195,755	828.6	200,711	832.6
Native Hawaiian/other Pacific Islander	610	263.4	647	273.1	694	286.8	743	301.0	783	311.5
White	252,420	300.6	256,392	305.0	260,161	309.4	263,410	313.2	265,426	316.0
Multiracial	39,773	1,869.7	40,134	1,820.9	40,286	1,766.1	40,379	1,709.9	40,143	1,643.1
Transmission category^e										
Male-to-male sexual contact	531,004	—	550,084	—	568,405	—	586,044	—	599,433	—
Injection drug use	68,935	—	68,166	—	67,525	—	66,954	—	65,912	—
Male-to-male sexual contact and injection drug use	56,977	—	57,124	—	57,180	—	57,361	—	56,882	—
Heterosexual contact ^f	76,039	—	77,339	—	78,725	—	79,821	—	80,035	—
Perinatal ^g	4,732	—	4,832	—	4,928	—	5,051	—	5,135	—
Other ^h	2,799	—	2,800	—	2,791	—	2,794	—	2,783	—
Region of residenceⁱ										
Northeast	161,984	702.6	163,829	709.3	165,728	716.6	167,279	723.4	167,483	725.2
Midwest	91,473	328.2	93,963	335.8	96,426	343.6	98,564	350.2	100,260	355.7
South	320,530	646.3	331,048	660.1	341,199	673.8	351,458	687.1	358,705	694.5
West	166,499	527.2	171,504	536.8	176,201	545.9	180,725	554.9	183,732	559.8
Subtotal	740,486	560.5	760,344	570.9	779,554	581.3	798,026	591.2	810,180	596.8

Table 17a. Persons aged ≥13 years living with diagnosed HIV infection, by year, sex assigned at birth, and selected characteristics, 2016–2020—United States (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Female sex at birth^b										
Age at end of year										
13–14	367	9.1	368	9.1	369	9.1	343	8.4	329	8.0
15–19	1,669	16.1	1,561	15.1	1,484	14.4	1,387	13.4	1,294	12.6
20–24	5,603	51.5	5,265	49.0	4,895	46.0	4,630	43.8	4,158	39.4
25–29	11,596	102.9	11,378	99.3	11,192	97.0	10,689	92.8	9,997	88.0
30–34	16,819	155.2	16,538	152.0	16,197	148.0	16,294	146.9	16,152	143.3
35–39	24,147	232.2	23,658	223.3	23,061	214.2	22,375	206.0	21,248	195.1
40–44	28,730	289.9	28,124	285.3	28,046	283.3	27,678	276.4	27,395	268.6
45–49	34,890	330.7	34,521	327.3	33,494	320.0	32,776	318.0	31,394	310.9
50–54	38,058	343.3	37,723	347.9	37,361	352.7	36,664	353.0	36,344	351.4
55–59	31,325	277.8	33,266	295.0	35,000	310.9	36,601	325.9	37,325	336.5
60–64	20,136	198.3	22,278	214.2	24,452	231.0	26,464	247.1	28,370	262.1
≥65	17,554	64.0	20,273	71.8	23,196	79.8	26,595	88.7	29,973	97.2
Race/ethnicity										
American Indian/Alaska Native	711	71.8	742	74.1	758	75.0	785	76.8	796	77.2
Asian ^c	2,307	28.8	2,442	29.6	2,567	30.5	2,680	31.2	2,783	31.9
Black/African American	134,933	773.5	137,345	779.6	139,534	784.9	141,598	789.4	142,341	787.2
Hispanic/Latino ^d	42,516	195.1	43,356	194.3	44,133	193.2	44,896	192.4	45,194	189.7
Native Hawaiian/other Pacific Islander	125	54.5	127	54.1	131	54.6	135	55.2	150	60.3
White	37,708	43.1	38,357	43.9	39,040	44.6	39,824	45.5	40,348	46.2
Multiracial	12,388	545.5	12,379	527.4	12,379	510.8	12,374	494.6	12,163	471.0
Transmission category^e										
Injection drug use	49,201	—	48,995	—	48,837	—	48,727	—	48,195	—
Heterosexual contact ^f	174,674	—	178,746	—	182,501	—	186,172	—	188,033	—
Perinatal ^g	5,351	—	5,532	—	5,713	—	5,876	—	6,015	—
Other ^h	1,668	—	1,680	—	1,697	—	1,722	—	1,736	—
Region of residenceⁱ										
Northeast	67,698	274.5	67,871	274.9	68,097	275.7	68,067	275.7	67,648	274.5
Midwest	23,871	82.3	24,552	84.4	25,206	86.4	25,908	88.6	26,319	89.9
South	115,016	219.5	117,550	221.8	119,722	223.6	122,102	225.7	123,110	225.3
West	24,309	75.8	24,980	77.0	25,722	78.5	26,419	80.0	26,902	80.8
Subtotal	230,894	167.1	234,953	168.8	238,747	170.3	242,496	171.9	243,979	172.0
Total	971,380	359.4	995,297	365.4	1,018,301	371.3	1,040,522	376.9	1,054,159	379.7

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data.

^b Data include transgender and additional gender identity persons.

^c Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on residence at the end of the specified year (i.e., most recent known address).

Table 17b. Persons aged ≥13 years living with diagnosed HIV infection, by year, sex assigned at birth, and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a						
Male sex at birth^b										
Age at end of year										
13–14	314	7.4	303	7.1	301	7.0	310	7.2	313	7.2
15–19	2,996	27.4	2,997	27.5	2,901	26.7	2,868	26.4	2,498	23.1
20–24	24,444	210.3	23,344	203.9	22,252	197.0	21,549	192.6	20,206	181.1
25–29	57,254	485.5	59,521	495.1	60,181	496.0	59,149	487.0	55,953	466.4
30–34	62,890	566.3	66,826	597.5	72,081	638.8	77,441	675.0	81,605	699.0
35–39	66,170	630.3	68,860	643.2	71,259	654.7	73,826	671.6	76,190	690.5
40–44	69,468	703.0	68,767	699.6	69,461	702.5	71,326	712.4	73,950	724.1
45–49	102,504	978.6	96,658	923.6	90,855	876.9	85,316	837.0	78,982	791.4
50–54	130,000	1,200.5	126,774	1,195.6	121,818	1,173.9	115,548	1,133.4	110,548	1,087.8
55–59	105,775	981.3	112,500	1043.2	119,269	1,107.3	125,086	1,163.4	127,218	1,197.4
60–64	68,354	727.0	74,827	776.7	80,850	823.1	86,771	871.4	93,188	924.1
≥65	62,041	281.0	70,543	309.1	79,822	338.5	90,425	370.9	101,134	402.2
Race/ethnicity										
American Indian/Alaska Native	1,975	—	2,102	—	2,214	—	2,335	—	2,447	—
Asian ^c	10,567	—	11,397	—	12,168	—	12,824	—	13,372	—
Black/African American	260,435	—	267,801	—	275,110	—	282,299	—	287,021	—
Hispanic/Latino ^d	185,794	—	192,804	—	199,778	—	206,980	—	211,946	—
Native Hawaiian/other Pacific Islander	631	—	671	—	719	—	768	—	808	—
White	252,484	—	256,459	—	260,227	—	263,484	—	265,500	—
Multiracial	39,792	—	40,155	—	40,303	—	40,397	—	40,163	—
Transmission category^e										
Male-to-male sexual contact	535,741	—	554,845	—	573,263	—	591,073	—	604,590	—
Injection drug use	72,548	—	71,657	—	70,888	—	70,228	—	69,099	—
Male-to-male sexual contact and injection drug use	57,809	—	57,919	—	57,945	—	58,120	—	57,629	—
Heterosexual contact ^f	78,423	—	79,709	—	81,079	—	82,192	—	82,394	—
Perinatal ^g	4,864	—	4,962	—	5,058	—	5,183	—	5,265	—
Other ^h	2,826	—	2,827	—	2,817	—	2,820	—	2,808	—
Region of residenceⁱ										
Northeast	161,984	702.6	163,829	709.3	165,728	716.6	167,279	723.4	167,483	725.2
Midwest	91,473	328.2	93,963	335.8	96,426	343.6	98,564	350.2	100,260	355.7
South	320,530	646.3	331,048	660.1	341,199	673.8	351,458	687.1	358,705	694.5
West	166,499	527.2	171,504	536.8	176,201	545.9	180,725	554.9	183,732	559.8
U.S. dependent areas	11,724	763.1	11,576	765.3	11,496	781.3	11,589	784.3	11,605	789.2
Subtotal	752,210	562.9	771,920	573.1	791,050	583.5	809,615	593.3	821,785	598.9

Table 17b. Persons aged ≥13 years living with diagnosed HIV infection, by year, sex assigned at birth, and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016		2017		2018		2019		2020 (COVID-19 pandemic)	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Female sex at birth^b										
Age at end of year										
13–14	368	9.0	372	9.1	373	9.1	344	8.3	330	7.9
15–19	1,690	16.1	1,584	15.2	1,499	14.4	1,396	13.4	1,302	12.5
20–24	5,687	51.6	5,333	49.0	4,964	46.1	4,683	43.8	4,197	39.3
25–29	11,759	103.2	11,524	99.4	11,323	97.1	10,817	92.9	10,115	88.1
30–34	17,074	155.9	16,769	152.6	16,404	148.4	16,495	147.3	16,338	143.6
35–39	24,579	233.6	24,043	224.4	23,405	215.1	22,665	206.6	21,498	195.5
40–44	29,273	291.7	28,626	286.9	28,513	284.6	28,112	277.5	27,825	269.8
45–49	35,627	333.6	35,206	329.8	34,151	322.6	33,406	320.3	31,947	312.7
50–54	38,965	347.1	38,586	351.5	38,163	355.9	37,413	355.8	37,076	354.2
55–59	32,164	281.9	34,106	299.0	35,845	314.8	37,486	329.9	38,193	340.3
60–64	20,649	200.9	22,827	216.9	25,091	234.3	27,156	250.7	29,120	266.0
≥65	18,143	65.2	20,924	73.1	23,905	81.1	27,407	90.2	30,878	98.8
Race/ethnicity										
American Indian/Alaska Native	711	—	742	—	758	—	785	—	796	—
Asian ^c	2,318	—	2,453	—	2,578	—	2,691	—	2,794	—
Black/African American	135,060	—	137,470	—	139,659	—	141,725	—	142,467	—
Hispanic/Latino ^d	47,433	—	48,136	—	48,857	—	49,613	—	49,868	—
Native Hawaiian/other Pacific Islander	132	—	134	—	136	—	141	—	156	—
White	37,725	—	38,376	—	39,058	—	39,843	—	40,366	—
Multiracial	12,392	—	12,383	—	12,384	—	12,377	—	12,167	—
Transmission category^e										
Injection drug use	50,248	—	49,985	—	49,792	—	49,670	—	49,114	—
Heterosexual contact ^f	178,573	—	182,568	—	186,307	—	189,994	—	191,832	—
Perinatal ^g	5,477	—	5,655	—	5,829	—	5,984	—	6,126	—
Other ^h	1,680	—	1,692	—	1,708	—	1,732	—	1,747	—
Region of residenceⁱ										
Northeast	67,698	274.5	67,871	274.9	68,097	275.7	68,067	275.7	67,648	274.5
Midwest	23,871	82.3	24,552	84.4	25,206	86.4	25,908	88.6	26,319	89.9
South	115,016	219.5	117,550	221.8	119,722	223.6	122,102	225.7	123,110	225.3
West	24,309	75.8	24,980	77.0	25,722	78.5	26,419	80.0	26,902	80.8
U.S. dependent areas	5,084	297.3	4,947	293.9	4,889	298.8	4,884	296.9	4,840	295.1
Subtotal	235,978	168.7	239,900	170.3	243,636	171.8	247,380	173.3	248,819	173.4
Total	988,188	361.3	1,011,820	367.1	1,034,686	373.0	1,056,995	378.6	1,070,604	381.4

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions.

^a Rates are per 100,000 population. Rates are not calculated by gender or transmission category because of the lack of denominator data. Rates by race/ethnicity are not provided because U.S. census information is limited for U.S. dependent areas.

^b Data include transgender and additional gender identity persons.

^c Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^d Hispanic/Latino persons can be of any race.

^e Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Includes individuals aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on residence at the end of the specified year (i.e., most recent known address).

Table 18a. Transgender and additional gender identity persons aged ≥13 years living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at end of year					
13–14	0	0	0	0	1
15–19	103	93	68	66	49
20–24	853	798	770	738	710
25–29	1,861	1,904	1,904	1,814	1,718
30–34	1,602	1,816	2,012	2,266	2,494
35–39	1,373	1,466	1,583	1,705	1,784
40–44	1,098	1,125	1,197	1,272	1,410
45–49	1,096	1,091	1,106	1,153	1,145
50–54	905	991	1,034	1,031	1,076
55–59	557	611	693	785	816
60–64	268	307	343	376	446
≥65	137	174	206	258	299
Race/ethnicity					
American Indian/Alaska Native	40	42	49	53	57
Asian ^b	143	162	170	182	197
Black/African American	4,592	4,857	5,118	5,368	5,592
Hispanic/Latino ^c	3,183	3,342	3,542	3,756	3,931
Native Hawaiian/other Pacific Islander	24	26	29	33	35
White	1,018	1,078	1,122	1,182	1,235
Multiracial	853	869	886	890	901
Exposure category^d					
Sexual contact ^e	8,095	8,590	9,103	9,624	10,102
Injection drug use	16	19	23	24	24
Sexual contact ^e and injection drug use	1,572	1,583	1,597	1,613	1,595
Perinatal ^f	22	22	22	21	20
Other ^g	148	162	171	182	207
Region of residence^h					
Northeast	2,627	2,751	2,898	2,999	3,091
Midwest	1,324	1,403	1,496	1,546	1,624
South	3,521	3,729	3,885	4,095	4,314
West	2,381	2,493	2,637	2,824	2,919
Subtotal	9,853	10,376	10,916	11,464	11,948
Transgender man^a					
Age at end of year					
13–14	1	1	0	0	1
15–19	6	7	7	5	3
20–24	16	19	22	29	39
25–29	44	59	71	74	69
30–34	54	44	61	82	92
35–39	53	64	65	67	75
40–44	42	42	51	54	57
45–49	44	47	50	52	48
50–54	46	47	46	44	47
55–59	28	28	25	34	38
60–64	16	20	26	22	24
≥65	11	11	12	15	16
Race/ethnicity					
American Indian/Alaska Native	4	4	4	4	4
Asian ^b	4	6	8	9	9
Black/African American	166	174	194	211	219
Hispanic/Latino ^c	76	81	89	101	108
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	75	86	102	111	124
Multiracial	36	38	39	42	45
Exposure category^d					
Sexual contact ^e	257	282	325	359	382
Injection drug use	5	6	8	9	10
Sexual contact ^e and injection drug use	64	63	60	61	62
Perinatal ^f	18	18	18	17	19
Other ^g	17	20	25	32	36
Region of residence^h					
Northeast	71	74	78	87	91
Midwest	104	109	119	124	125
South	105	117	134	150	173
West	81	89	105	117	120

Table 18a. Transgender and additional gender identity persons aged ≥13 years living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Subtotal	361	389	436	478	509
Additional gender identityⁱ					
Age at end of year					
13–14	0	0	0	0	0
15–19	4	2	5	5	2
20–24	13	15	19	24	27
25–29	34	34	34	33	36
30–34	24	27	31	45	53
35–39	15	28	34	38	34
40–44	24	16	15	12	16
45–49	14	23	21	20	25
50–54	12	13	13	18	17
55–59	15	14	15	14	10
60–64	6	7	8	7	12
≥65	5	5	7	10	11
Race/ethnicity					
American Indian/Alaska Native	0	0	1	1	1
Asian ^b	1	2	5	5	6
Black/African American	66	73	78	85	93
Hispanic/Latino ^c	47	53	55	63	67
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	31	34	39	44	48
Multiracial	21	22	24	28	28
Exposure category^d					
Sexual contact ^e	138	156	175	197	211
Injection drug use	1	1	1	1	1
Sexual contact ^e and injection drug use	24	23	22	23	24
Perinatal ^f	2	2	2	2	2
Other ^g	1	2	2	3	5
Region of residence^h					
Northeast	88	107	128	136	139
Midwest	20	22	21	31	38
South	44	40	39	42	43
West	14	15	14	17	23
Subtotal	166	184	202	226	243
Total	10,380	10,949	11,554	12,168	12,700

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

^a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

^b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^c Hispanic/Latino persons can be of any race.

^d Risk factor data for transgender and additional gender identity persons aged ≥13 years are presented by using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. Exposure categories are mutually exclusive and have no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. See Technical Notes for more information on exposure categories.

^e For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

^f Individuals aged ≥13 years at time of diagnosis of HIV infection.

^g Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

^h Data are based on residence at the end of the specified year (i.e., most recent known address).

ⁱ Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 18b. Transgender and additional gender identity persons aged ≥13 years living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States and 6 dependent areas

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Transgender woman^a					
Age at end of year					
13–14	0	0	0	0	1
15–19	103	93	68	66	49
20–24	856	801	774	743	715
25–29	1,866	1,907	1,906	1,816	1,719
30–34	1,607	1,824	2,019	2,272	2,500
35–39	1,379	1,471	1,586	1,707	1,789
40–44	1,100	1,127	1,202	1,278	1,417
45–49	1,098	1,093	1,106	1,154	1,147
50–54	910	994	1,035	1,034	1,077
55–59	561	617	699	790	821
60–64	269	308	344	378	449
≥65	139	176	208	259	300
Race/ethnicity					
American Indian/Alaska Native	40	42	49	53	57
Asian ^b	143	162	170	182	197
Black/African American	4,592	4,857	5,118	5,368	5,592
Hispanic/Latino ^c	3,218	3,377	3,573	3,788	3,966
Native Hawaiian/other Pacific Islander	24	26	29	34	36
White	1,018	1,078	1,122	1,182	1,235
Multiracial	853	869	886	890	901
Exposure category^d					
Sexual contact ^e	8,123	8,618	9,128	9,652	10,133
Injection drug use	16	19	23	24	24
Sexual contact ^e and injection drug use	1,579	1,590	1,603	1,618	1,600
Perinatal ^f	22	22	22	21	20
Other ^g	148	162	171	182	207
Region of residence^h					
Northeast	2,627	2,751	2,898	2,999	3,091
Midwest	1,324	1,403	1,496	1,546	1,624
South	3,521	3,729	3,885	4,095	4,314
West	2,381	2,493	2,637	2,824	2,919
U.S. dependent areas	35	35	31	33	36
Subtotal	9,888	10,411	10,947	11,497	11,984
Transgender man^a					
Age at end of year					
13–14	1	1	0	0	1
15–19	7	8	8	5	3
20–24	16	19	22	30	40
25–29	44	59	71	74	69
30–34	54	44	61	82	92
35–39	53	64	65	67	75
40–44	42	42	52	55	58
45–49	44	47	50	52	48
50–54	46	47	46	44	47
55–59	28	28	25	34	38
60–64	16	20	26	22	24
≥65	11	11	12	15	17
Race/ethnicity					
American Indian/Alaska Native	4	4	4	4	4
Asian ^b	4	6	8	9	9
Black/African American	166	174	194	211	219
Hispanic/Latino ^c	77	82	91	103	111
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	75	86	102	111	124
Multiracial	36	38	39	42	45
Exposure category^d					
Sexual contact ^e	257	282	326	360	383
Injection drug use	5	6	8	9	10
Sexual contact ^e and injection drug use	64	63	60	61	63
Perinatal ^f	19	19	19	18	20
Other ^g	17	20	25	32	36
Region of residence^h					
Northeast	71	74	78	87	91
Midwest	104	109	119	124	125
South	105	117	134	150	173
West	81	89	105	117	120
U.S. dependent areas	1	1	2	2	3
Subtotal	362	390	438	480	512

Table 18b. Transgender and additional gender identity persons aged ≥13 years living with diagnosed HIV infection, by year and selected characteristics, 2016–2020—United States and 6 dependent areas (cont)

	2016 No.	2017 No.	2018 No.	2019 No.	2020 (COVID-19 pandemic) No.
Additional gender identityⁱ					
Age at end of year					
13–14	0	0	0	0	0
15–19	4	2	5	5	2
20–24	13	15	19	24	27
25–29	34	34	34	33	36
30–34	25	27	32	45	53
35–39	15	28	34	38	34
40–44	24	16	15	12	16
45–49	14	23	21	20	25
50–54	12	13	13	18	17
55–59	15	14	15	14	10
60–64	6	7	8	7	12
≥65	5	5	7	10	11
Race/ethnicity					
American Indian/Alaska Native	0	0	1	1	1
Asian ^b	1	2	5	5	6
Black/African American	66	73	78	85	93
Hispanic/Latino ^c	48	53	56	63	67
Native Hawaiian/other Pacific Islander	0	0	0	0	0
White	31	34	39	44	48
Multiracial	21	22	24	28	28
Exposure category^d					
Sexual contact ^e	139	156	176	197	211
Injection drug use	1	1	1	1	1
Sexual contact ^e and injection drug use	24	23	22	23	24
Perinatal ^f	2	2	2	2	2
Other ^g	1	2	2	3	5
Region of residence^h					
Northeast	88	107	128	136	139
Midwest	20	22	21	31	38
South	44	40	39	42	43
West	14	15	14	17	23
U.S. dependent areas	1	0	1	0	0
Subtotal	167	184	203	226	243
Total	10,417	10,985	11,588	12,203	12,739

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and trends based on these numbers, should be interpreted with caution.

a “Transgender woman” includes individuals who were assigned “male” sex at birth but have ever identified as “female” gender. “Transgender man” includes individuals who were assigned “female” sex at birth but have ever identified as “male” gender.

b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

c Hispanic/Latino persons can be of any race.

d Risk factor data for transgender and additional gender identity persons aged ≥13 years are presented by using the exposure category classification, which is meant to convey all the known ways the person could have been exposed to HIV. Exposure categories are mutually exclusive and have no presumed hierarchical order of probability, except for rare circumstances where route of transmission has been confirmed through investigation. See Technical Notes for more information on exposure categories.

e For persons assigned “male” sex at birth, sexual contact with any person. For persons assigned “female” sex at birth, sexual contact with a person assigned “male” sex at birth.

f Individuals aged ≥13 years at time of diagnosis of HIV infection.

g Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified. Data were not statistically adjusted to account for missing exposure category; therefore, case counts for “Other” might be high.

h Data are based on residence at the end of the specified year (i.e., most recent known address).

i Additional gender identity examples include “bigender,” “gender queer,” and “two-spirit.”

Table 19a. Persons aged 13–24 years living with diagnosed HIV infection, by age at end of year, sex assigned at birth, and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States

	13–14 years		15–17 years		18–19 years		20–22 years		23–24 years		Total	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Sex at birth												
Male	311	7.2	706	11.0	1,778	41.3	8,867	134.3	11,161	252.0	22,823	87.7
Female	329	8.0	637	10.4	657	15.9	1,951	30.9	2,207	52.0	5,781	23.2
Race/ethnicity												
American Indian/Alaska Native	1	1.4	1	1.0	10	14.2	47	42.9	51	71.0	110	25.7
Asian ^b	33	7.8	53	8.1	43	9.5	171	24.1	216	40.9	516	18.6
Black/African American	374	32.4	836	49.5	1,475	126.3	6,268	344.0	7,241	594.9	16,194	229.8
Hispanic/Latino ^c	85	3.9	226	7.3	537	26.6	2,523	84.9	3,312	171.2	6,683	54.9
Native Hawaiian/other Pacific Islander	0	0.0	2	7.9	5	30.4	11	43.2	15	86.0	33	32.4
White	88	2.1	164	2.5	257	5.8	1,351	19.7	1,972	42.5	3,832	14.4
Multiracial	59	16.8	61	12.7	108	36.5	445	104.1	558	210.6	1,231	67.7
Transmission category^d												
Male sex at birth^e												
Male-to-male sexual contact	5	—	238	—	1,341	—	7,743	—	9,813	—	19,140	—
Injection drug use	0	—	2	—	11	—	77	—	127	—	218	—
Male-to-male sexual contact and injection drug use	0	—	4	—	27	—	202	—	362	—	594	—
Heterosexual contact ^f	0	—	10	—	35	—	222	—	327	—	595	—
Perinatal ^g	245	—	362	—	295	—	559	—	486	—	1,946	—
Other ^h	61	—	90	—	69	—	65	—	46	—	332	—
Subtotal	311	7.2	706	11.0	1,778	41.3	8,867	134.3	11,161	252.0	22,823	87.7
Female sex at birth^e												
Injection drug use	1	—	6	—	27	—	109	—	144	—	288	—
Heterosexual contact ^f	4	—	70	—	215	—	1,087	—	1,394	—	2,770	—
Perinatal ^g	248	—	456	—	345	—	687	—	628	—	2,365	—
Other ^h	76	—	105	—	70	—	67	—	41	—	359	—
Subtotal	329	8.0	637	10.4	657	15.9	1,951	30.9	2,207	52.0	5,781	23.2
Region of residenceⁱ												
Northeast	99	7.6	264	13.2	382	26.5	1,637	75.9	2,141	151.4	4,523	54.4
Midwest	148	8.4	225	8.5	364	20.5	1,627	58.9	1,919	106.9	4,283	39.9
South	282	8.5	609	12.5	1,353	41.7	5,978	120.5	7,016	211.7	15,238	77.4
West	111	5.4	245	8.1	336	17.0	1,576	51.8	2,292	106.6	4,560	37.3
Total^j	640	7.6	1,343	10.7	2,435	28.9	10,818	83.7	13,368	154.1	28,604	56.1

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by gender, transmission category, or exposure category because of the lack of denominator data.

^b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^c Hispanic/Latino persons can be of any race.

^d Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^e Data include transgender and additional gender identity persons.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on address of residence at the end of the specified year (i.e., most recent known address).

^j Includes persons whose race/ethnicity is unknown.

Table 19b. Persons aged 13–24 years living with diagnosed HIV infection, by age at end of year, sex assigned at birth, and selected characteristics, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas

	13–14 years No.	15–17 years No.	18–19 years No.	20–22 years No.	23–24 years No.	Total No.
Gender						
Male	313	712	1,786	8,926	11,280	23,017
Female	330	642	660	1,975	2,222	5,829
Race/ethnicity						
American Indian/Alaska Native	1	1	10	47	51	110
Asian ^b	33	53	43	171	216	516
Black/African American	374	838	1,476	6,270	7,241	16,199
Hispanic/Latino ^c	88	234	547	2,602	3,446	6,917
Native Hawaiian/other Pacific Islander	0	2	5	12	15	34
White	88	164	257	1,352	1,972	3,833
Multiracial	59	62	108	445	558	1,232
Transmission category^d						
Male sex at birth^e						
Male-to-male sexual contact	5	240	1,347	7,784	9,908	19,284
Injection drug use	0	2	11	77	128	219
Male-to-male sexual contact and injection drug use	0	4	27	205	363	598
Heterosexual contact ^f	0	10	35	223	335	604
Perinatal ^g	247	366	297	572	498	1,979
Other ^h	61	90	69	66	47	334
Subtotal	313	712	1,786	8,926	11,280	23,017
Female sex at birth^e						
Injection drug use	1	6	27	109	144	288
Heterosexual contact ^f	4	70	216	1,100	1,405	2,794
Perinatal ^g	249	461	347	697	632	2,386
Other ^h	76	105	70	69	41	361
Subtotal	330	642	660	1,975	2,222	5,829
Region of residenceⁱ						
Northeast	99	264	382	1,637	2,141	4,523
Midwest	148	225	364	1,627	1,919	4,283
South	282	609	1,353	5,978	7,016	15,238
West	111	245	336	1,576	2,292	4,560
U.S. dependent areas	3	11	11	83	134	242
Total^j	643	1,354	2,446	10,901	13,502	28,846

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12 should be interpreted with caution.

^a Rates are per 100,000 population. Rates are not calculated by gender, transmission category, or exposure category because of the lack of denominator data.

^b Includes Asian/Pacific Islander legacy cases (see Technical Notes).

^c Hispanic/Latino persons can be of any race.

^d Transmission category is classified based on a hierarchy of the risk factors most likely responsible for HIV transmission; classification is determined based on the person's sex assigned at birth. Data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to column subtotals and total.

^e Data include transgender and additional gender identity persons.

^f Sexual contact with a person known to have, or with a risk factor for, HIV infection.

^g Individuals were aged ≥13 years at time of diagnosis of HIV infection.

^h Other risk factors, including hemophilia, blood transfusion, and risk factor not reported or not identified.

ⁱ Data are based on address of residence at the end of the specified year (i.e., most recent known address).

^j Includes persons whose race/ethnicity is unknown.

Table 20. Diagnoses of HIV infection, 2020, and persons living with diagnosed HIV infection (prevalence), year-end 2020, by area of residence—United States and 6 dependent areas

Area of residence	Diagnoses, 2020 ^a (COVID-19 pandemic)						Prevalence of diagnosed HIV infection, year-end 2020 (COVID-19 pandemic)					
	Persons aged ≥13 yrs		Children (<13 yrs)		Total		Persons aged ≥13 yrs		Children (<13 yrs)		Total	
	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b	No.	Rate ^b
Alabama	585	14.1	6	0.8	591	12.0	14,158	341.6	28	3.6	14,186	288.2
Alaska	29	4.8	1	0.8	30	4.1	730	121.7	3	2.3	733	100.3
Arizona	662	10.6	2	0.2	664	8.9	17,695	282.9	29	2.5	17,724	238.8
Arkansas	242	9.6	0	0.0	242	8.0	6,058	239.3	9	1.8	6,067	200.2
California	3,924	11.9	6	0.1	3,930	10.0	134,381	406.0	88	1.4	134,469	341.6
Colorado	324	6.6	0	0.0	324	5.6	13,249	269.1	25	2.8	13,274	228.6
Connecticut	171	5.6	0	0.0	171	4.8	10,569	345.4	11	2.2	10,580	297.4
Delaware	93	11.1	0	0.0	93	9.4	3,439	409.0	5	3.4	3,444	349.0
District of Columbia	197	32.3	0	0.0	197	27.6	13,792	2,260.4	12	11.7	13,804	1,936.5
Florida	3,408	18.2	7	0.2	3,415	15.7	114,541	612.5	130	4.3	114,671	527.6
Georgia	1,977	22.1	1	0.1	1,978	18.5	57,561	643.5	81	4.6	57,642	538.2
Hawaii	51	4.3	0	0.0	51	3.6	2,380	200.4	3	1.4	2,383	169.4
Idaho	32	2.1	1	0.3	33	1.8	1,265	83.8	8	2.5	1,273	69.7
Illinois	1,096	10.3	3	0.2	1,099	8.7	35,793	336.8	81	4.1	35,874	285.0
Indiana	433	7.7	1	0.1	434	6.4	11,873	210.5	52	4.7	11,925	176.5
Iowa	100	3.8	0	0.0	100	3.2	2,940	111.1	12	2.3	2,952	93.3
Kansas	138	5.7	0	0.0	138	4.7	3,354	138.8	9	1.8	3,363	115.4
Kentucky	300	8.0	1	0.1	301	6.7	7,911	210.3	15	2.1	7,926	177.0
Louisiana	722	18.7	1	0.1	723	15.6	21,380	553.0	29	3.7	21,409	460.9
Maine	16	1.4	1	0.6	17	1.3	1,661	141.1	9	5.2	1,670	123.7
Maryland ^c	706	13.8	1	0.1	707	11.7	33,425	655.4	39	4.1	33,464	552.6
Massachusetts	434	7.3	0	0.0	434	6.3	21,047	353.8	20	2.1	21,067	305.6
Michigan	519	6.1	0	0.0	519	5.2	16,881	199.4	52	3.5	16,933	169.9
Minnesota	229	4.8	0	0.0	229	4.0	9,001	190.4	37	4.0	9,038	159.8
Mississippi	402	16.2	0	0.0	402	13.6	9,713	392.0	3	0.6	9,716	327.5
Missouri	359	6.9	2	0.2	361	5.9	12,864	248.7	26	2.7	12,890	209.5
Montana	14	1.5	0	0.0	14	1.3	687	75.0	2	1.2	689	63.8
Nebraska	73	4.6	0	0.0	73	3.8	2,324	145.7	6	1.8	2,330	120.3
Nevada	392	14.9	0	0.0	392	12.5	11,042	418.5	5	1.0	11,047	352.0
New Hampshire	33	2.8	0	0.0	33	2.4	1,328	111.5	5	2.9	1,333	97.6
New Jersey	805	10.7	4	0.3	809	9.1	35,136	467.8	43	3.1	35,179	396.1
New Mexico	131	7.4	0	0.0	131	6.2	3,934	221.8	7	2.1	3,941	187.1
New York	1,963	11.9	1	0.0	1,964	10.2	125,383	761.6	66	2.3	125,449	648.8
North Carolina	1,079	12.0	0	0.0	1,079	10.2	33,562	374.3	58	3.5	33,620	317.1
North Dakota	36	5.7	0	0.0	36	4.7	526	83.4	3	2.2	529	69.1
Ohio	888	9.0	2	0.1	890	7.6	23,685	240.0	49	2.7	23,734	203.0
Oklahoma	333	10.1	1	0.1	334	8.4	6,603	200.3	23	3.4	6,626	166.4
Oregon	180	5.0	0	0.0	180	4.2	7,347	202.4	15	2.5	7,362	173.6
Pennsylvania	775	7.1	2	0.1	777	6.1	36,613	335.1	48	2.6	36,661	286.8
Rhode Island	53	5.8	1	0.7	54	5.1	2,672	292.0	3	2.1	2,675	253.0
South Carolina	655	14.8	3	0.4	658	12.6	17,914	405.0	26	3.3	17,940	343.8
South Dakota	34	4.6	0	0.0	34	3.8	693	94.4	5	3.2	698	78.2
Tennessee	647	11.1	0	0.0	647	9.4	18,207	313.5	43	4.0	18,250	265.0
Texas	3,548	14.8	7	0.1	3,555	12.1	97,416	405.3	123	2.3	97,539	332.2
Utah	131	5.1	0	0.0	131	4.0	3,265	126.1	10	1.5	3,275	100.8
Vermont	12	2.2	0	0.0	12	1.9	722	132.6	1	1.3	723	116.0
Virginia	628	8.7	0	0.0	628	7.3	24,046	331.4	37	2.8	24,083	280.3
Washington	421	6.5	1	0.1	422	5.5	14,303	220.4	28	2.3	14,331	186.3
West Virginia	139	9.1	0	0.0	139	7.8	2,089	136.3	3	1.2	2,092	117.2
Wisconsin	213	4.3	1	0.1	214	3.7	6,645	134.4	18	2.0	6,663	114.2
Wyoming	14	2.9	0	0.0	14	2.4	356	73.0	1	1.1	357	61.3
Subtotal	30,346	10.9	57	0.1	30,403	9.2	1,054,159	379.7	1,444	2.8	1,055,603	320.4
U.S. dependent areas												
American Samoa	0	0.0	0	0.0	0	0.0	1	2.8	0	0.0	1	2.1
Guam	0	0.0	0	0.0	0	0.0	105	81.8	1	2.5	106	62.9
Northern Mariana Islands	0	0.0	0	0.0	0	0.0	16	38.9	0	0.0	16	30.9
Puerto Rico	286	10.2	0	0.0	286	9.1	15,788	564.1	1	0.3	15,789	499.8
Republic of Palau	0	0.0	0	0.0	0	0.0	9	49.1	0	0.0	9	41.8
U.S. Virgin Islands	3	3.4	0	0.0	3	2.8	526	598.8	1	5.4	527	495.8
Subtotal	289	9.3	0	0.0	289	8.1	16,445	528.7	3	0.7	16,448	462.7
Total	30,635	10.9	57	0.1	30,692	9.2	1,070,604	381.4	1,447	2.8	1,072,051	321.9

Abbreviations: yrs, years; CDC, the Centers for Disease Control and Prevention [footnotes only].

Note. Prevalence data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution.

^a Data are based on residence at HIV diagnosis.

^b Rates are per 100,000 population.

^c Data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.

Table 21. Persons aged ≥13 years living with diagnosed HIV infection, by race/ethnicity and area of residence, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas

Area of residence	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Alabama	6	24.2	36	58.0	8,944	830.1	523	326.3	3	144.7	3,781	136.7	823	1,590.7	14,158	341.6
Alaska	195	232.7	28	69.6	99	498.0	81	204.4	5	62.0	279	74.5	43	127.6	730	121.7
Arizona	693	298.9	234	104.6	2,417	866.7	5,686	308.9	29	241.6	7,988	224.5	604	549.9	17,695	282.9
Arkansas	6	30.2	27	64.1	2,634	697.0	467	261.2	6	70.3	2,594	139.1	320	804.7	6,058	239.3
California	289	208.9	5,736	110.9	21,828	1,149.3	53,192	430.5	241	194.5	47,523	376.9	5,563	692.7	134,381	406.0
Colorado	79	245.1	156	93.3	2,016	1,024.5	3,275	329.7	16	232.9	7,349	214.3	311	320.5	13,249	269.1
Connecticut	10	156.8	111	75.9	3,491	1,107.7	3,659	762.8	7	657.9	3,020	146.1	270	607.9	10,569	345.4
Delaware	3	113.4	7	20.5	1,943	1,069.8	335	467.5	1	363.6	997	186.4	152	978.0	3,439	409.0
District of Columbia	14	1,113.8	77	270.1	9,653	3,690.4	1,211	1,919.3	6	2,127.7	2,036	837.6	791	6,396.6	13,792	2,260.4
Florida	77	158.1	666	122.4	50,191	1,814.9	29,703	618.6	49	403.6	30,994	301.6	2,857	1,127.9	114,541	612.5
Georgia	23	107.3	291	73.7	39,589	1,408.6	4,599	574.8	17	299.2	9,976	208.7	3,059	2,292.7	57,561	643.5
Hawaii	4	151.1	387	83.9	111	475.8	314	291.3	220	198.3	1,041	384.6	303	143.6	2,380	200.4
Idaho	13	79.5	9	38.9	122	1,102.4	227	128.4	2	74.5	845	67.5	47	176.8	1,265	83.8
Illinois	29	173.0	497	78.9	16,038	1,088.1	7,545	432.7	18	584.0	9,216	139.3	2,448	1,727.4	35,793	336.8
Indiana	11	79.7	226	156.9	4,458	847.2	1,220	327.4	3	138.8	5,435	120.8	519	622.9	11,873	210.5
Iowa	6	77.2	63	89.0	683	707.0	306	205.0	5	142.9	1,698	74.4	179	515.3	2,940	111.1
Kansas	15	75.3	54	70.9	853	626.2	588	219.7	1	43.1	1,677	90.0	163	315.9	3,354	138.8
Kentucky	6	71.9	61	102.4	2,415	792.1	646	498.4	1	37.7	4,326	135.1	455	851.0	7,911	210.3
Louisiana	33	128.7	78	110.3	14,458	1,182.9	1,218	645.7	4	266.8	5,127	221.8	459	1013.9	21,380	553.0
Maine	7	94.1	8	51.9	294	1,715.6	125	634.3	0	0.0	1,179	107.1	47	288.8	1,661	141.1
Maryland ^e	21	164.8	256	74.2	23,823	1,554.9	2,490	510.1	5	193.7	4,131	157.8	2,699	2,679.2	33,425	655.4
Massachusetts	26	243.2	464	108.0	6,309	1,484.4	5,743	847.1	8	316.0	8,038	186.3	457	509.7	21,047	353.8
Michigan	31	63.9	142	50.4	9,217	821.3	1,174	286.5	2	83.8	5,692	88.3	620	397.0	16,881	199.4
Minnesota	109	233.9	179	76.0	3,305	1,117.3	1,041	440.5	7	299.1	3,925	102.6	430	506.9	9,001	190.4
Mississippi	11	90.1	21	76.6	7,120	783.0	346	469.3	3	314.5	1,804	126.1	373	1,639.4	9,713	392.0
Missouri	6	25.9	98	86.7	5,554	962.3	864	422.4	5	73.7	5,816	139.8	519	583.2	12,864	248.7
Montana	28	56.5	4	44.7	23	479.9	53	159.7	1	150.6	539	67.4	39	197.1	687	75.0
Nebraska	26	206.1	50	120.0	645	860.9	404	251.8	3	290.4	1,105	86.3	90	370.4	2,324	145.7
Nevada	51	225.6	366	153.6	2,891	1,197.1	2,986	414.5	49	284.5	4,282	324.0	415	538.0	11,042	418.5
New Hampshire	1	38.2	20	57.5	162	945.7	202	452.3	0	0.0	893	83.0	49	316.9	1,328	111.5
New Jersey	14	126.4	392	52.5	14,979	1,546.0	10,750	724.6	9	350.9	6,486	154.4	2,458	2,569.2	35,136	467.8
New Mexico	340	223.0	22	73.4	250	729.3	1,896	225.9	2	166.3	1,309	189.2	114	474.3	3,934	221.8
New York	46	93.8	2,080	140.1	46,465	1,963.7	45,022	1,493.8	24	317.1	21,835	234.8	9,625	3,968.1	125,383	761.6
North Carolina	173	175.9	205	73.1	20,207	1,067.2	3,117	407.6	15	254.8	8,107	140.2	1,731	1,239.6	33,562	374.3
North Dakota	20	67.9	8	77.7	211	1,108.8	37	160.3	1	239.8	232	43.1	17	167.4	526	83.4
Ohio	13	65.1	136	54.7	10,413	863.8	1,740	481.3	3	71.7	10,085	128.3	1,193	715.5	23,685	240.0
Oklahoma	336	124.7	100	129.0	1,560	643.9	792	244.7	10	175.2	3,342	150.7	463	289.4	6,603	200.3

Table 21. Persons aged ≥13 years living with diagnosed HIV infection, by race/ethnicity and area of residence, year-end 2020 (COVID-19 pandemic)—United States and 6 dependent areas (cont)

Area of residence	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Oregon	54	134.9	155	88.1	556	807.8	1,170	265.3	20	137.1	5,135	184.4	257	247.3	7,347	202.4
Pennsylvania	35	216.3	321	79.4	16,998	1,476.4	6,683	861.4	14	428.1	10,541	125.1	2,017	1,388.6	36,613	335.1
Rhode Island	5	132.9	41	129.7	611	1,119.9	769	567.4	2	364.3	1,158	172.1	86	533.3	2,672	292.0
South Carolina	12	71.6	55	68.0	11,554	1,015.1	1,078	454.8	5	197.3	4,198	145.3	1,004	1693.3	17,914	405.0
South Dakota	102	190.3	5	41.4	156	1,028.1	70	264.3	1	243.9	324	52.8	35	279.4	693	94.4
Tennessee	10	57.6	93	84.0	9,867	1,048.0	1,114	387.2	3	95.3	6,329	145.0	789	969.3	18,207	313.5
Texas	40	48.1	1,058	83.4	34,905	1186.9	34,516	380.4	23	105.7	22,123	213.8	4,744	1,583.4	97,416	405.3
Utah	34	138.5	72	102.7	310	1027.7	839	240.2	13	50.6	1,900	93.0	94	206.2	3,265	126.1
Vermont	0	0.0	17	160.6	75	1,097.1	61	560.2	0	0.0	535	105.8	34	398.2	722	132.6
Virginia	18	89.3	356	70.2	13,518	980.4	2,503	381.5	11	201.6	6,491	143.3	1,124	711.9	24,046	331.4
Washington	118	147.0	516	81.0	2,403	931.3	2,362	311.7	59	129.1	7,835	174.7	1,003	447.3	14,303	220.4
West Virginia	3	86.8	12	91.7	381	705.2	102	413.9	0	0.0	1,461	103.1	126	606.2	2,089	136.3
Wisconsin	28	65.9	99	69.2	2,449	836.5	994	319.9	1	54.3	2,796	68.4	277	419.1	6,645	134.4
Wyoming	11	113.8	3	58.9	18	348.6	67	148.6	0	0.0	246	59.2	11	150.8	356	73.0
Subtotal	3,241	160.9	16,098	97.5	429,172	1,252.6	245,905	513.0	933	186.5	305,774	178.4	52,306	1,040.8	1,054,159	379.7
U.S. dependent areas^f																
American Samoa	0	—	0	—	0	—	0	—	0	—	0	—	1	—	1	2.8
Guam	0	—	57	—	4	—	8	—	18	—	11	—	7	—	105	81.8
Northern Mariana Islands	1	—	5	—	0	—	0	—	6	—	2	—	2	—	16	38.9
Puerto Rico	1	—	2	—	23	—	15,709	—	1	—	42	—	10	—	15,788	564.1
Republic of Palau	0	—	2	—	0	—	1	—	6	—	0	—	0	—	9	49.1
U.S. Virgin Islands	0	—	2	—	289	—	191	—	0	—	37	—	4	—	526	598.8
Subtotal	2	—	68	—	316	—	15,909	—	31	—	92	—	24	—	16,445	528.7
Total	3,243	—	16,166	—	429,488	—	261,814	—	964	—	305,866	—	52,330	—	1,070,604	381.4

Abbreviation: CDC, the Centers for Disease Control and Prevention [footnotes only].

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution. Data are based on address of residence at the end of the specified year (i.e., most recent known address).

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).^b Hispanic/Latino persons can be of any race.^c Includes persons whose race/ethnicity is unknown.^d Rates are per 100,000 population.^e Data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.^f Rates by race/ethnicity are not provided because U.S. census information for U.S. dependent areas is limited.

Table 22. Diagnoses of HIV infection, 2020, and persons living with diagnosed HIV infection (prevalence), year-end 2020, by metropolitan statistical area of residence—United States and Puerto Rico

MSA of residence	Diagnoses, 2020 ^a (COVID-19 pandemic)			Prevalence of diagnosed HIV infection, year-end 2020 ^b (COVID-19 pandemic)	
	No.	Rate ^c	Rank ^d	No.	Rate ^c
Akron, OH	54	7.7	64	1,115	159.0
Albany–Schenectady–Troy, NY	39	4.4	98	2,194	249.7
Albuquerque, NM	72	7.8	62	2,009	217.5
Allentown–Bethlehem–Easton, PA–NJ	40	4.7	95	1,663	196.5
Atlanta–Sandy Springs–Alpharetta, GA	1,352	22.2	2	39,493	648.7
Augusta–Richmond County, GA–SC	82	13.3	17	2,546	414.4
Austin–Round Rock–Georgetown, TX	221	9.6	48	6,734	293.4
Bakersfield, CA	160	17.8	8	1,928	213.9
Baltimore–Columbia–Towson, MD ^e	331	11.8	28	15,967	570.2
Baton Rouge, LA	158	18.4	7	5,525	643.5
Birmingham–Hoover, AL	140	12.8	21	4,337	397.2
Boise City, ID	20	2.6	110	209	27.1
Boston–Cambridge–Newton, MA–NH ^f	327	6.7	73	14,441	296.0
Boston Division	199	9.8	—	8,243	405.1
Cambridge Division	120	5.0	—	5,945	247.6
Bridgeport–Stamford–Norwalk, CT	52	5.5	83	2,697	286.2
Buffalo–Cheektowaga, NY	91	8.1	59	2,631	233.7
Cape Coral–Fort Myers, FL	54	6.8	72	2,260	285.8
Charleston–North Charleston, SC	96	11.7	30	2,692	328.4
Charlotte–Concord–Gastonia, NC–SC	321	12.0	27	9,233	344.0
Chattanooga, TN–GA	33	5.8	80	1,263	221.6
Chicago–Naperville–Elgin, IL–IN–WI	965	10.3	43	30,284	321.9
Chicago Division	843	11.9	—	27,468	388.4
Elgin Division	22	2.9	—	477	62.3
Gary Division	55	7.8	—	1,285	182.0
Lake County Division	45	5.2	—	1,054	122.1
Cincinnati, OH–KY–IN	207	9.3	52	4,690	210.0
Cleveland–Elyria, OH	216	10.6	40	5,720	279.9
Colorado Springs, CO	41	5.4	86	1,014	134.5
Columbia, SC	158	18.6	6	4,303	507.8
Columbus, OH	244	11.4	32	6,119	286.1
Dallas–Fort Worth–Arlington, TX	1,147	14.9	12	30,304	393.9
Dallas Division	836	16.2	—	23,587	456.1
Fort Worth Division	311	12.3	—	6,717	266.3
Dayton–Kettering, OH	50	6.2	79	1,788	220.9
Deltona–Daytona Beach–Ormond Beach, FL	66	9.7	47	2,106	309.7
Denver–Aurora–Lakewood, CO	222	7.4	66	9,584	320.4
Des Moines–West Des Moines, IA	44	6.2	78	1,010	142.7
Detroit–Warren–Dearborn, MI	349	8.1	58	10,696	248.5
Detroit Division	227	13.0	—	7,017	403.1
Warren Division	122	4.8	—	3,679	143.5
Durham–Chapel Hill, NC	68	10.4	41	2,536	388.6
El Paso, TX	110	13.0	19	2,430	287.2
Fayetteville, NC	76	14.4	14	1,953	369.0
Fayetteville–Springdale–Rogers, AR–MO	27	4.9	91	671	122.3
Fresno, CA	121	12.1	26	2,138	213.6
Grand Rapids–Wyoming, MI	35	3.2	107	1,342	124.1
Greensboro–High Point, NC	100	12.9	20	2,904	374.1
Greenville–Anderson, SC	99	10.6	39	2,286	245.1
Harrisburg–Carlisle, PA	40	6.9	71	1,497	257.2
Hartford–East Hartford–Middletown, CT	57	4.7	93	3,501	291.4
Honolulu (Urban), HI	37	3.8	103	1,508	156.5

Table 22. Diagnoses of HIV infection, 2020, and persons living with diagnosed HIV infection (prevalence), year-end 2020, by metropolitan statistical area of residence—United States and Puerto Rico (cont)

MSA of residence	Diagnoses, 2020 ^a (COVID-19 pandemic)			Prevalence of diagnosed HIV infection, year-end 2020 ^b (COVID-19 pandemic)	
	No.	Rate ^c	Rank ^d	No.	Rate ^c
Houston–The Woodlands–Sugar Land, TX	1,110	15.5	11	32,246	450.7
Indianapolis–Carmel–Anderson, IN	206	9.9	46	5,886	281.5
Jackson, MS	118	20.0	4	3,259	553.2
Jacksonville, FL	265	16.7	10	7,394	465.6
Kansas City, MO–KS	168	7.7	63	5,005	230.3
Knoxville, TN	46	5.2	88	1,326	151.0
Lakeland–Winter Haven, FL	77	10.3	42	2,659	357.1
Lancaster, PA	18	3.3	106	831	152.1
Lansing–East Lansing, MI	24	4.4	99	664	121.1
Las Vegas–Henderson–Paradise, NV	343	14.8	13	9,390	405.4
Lexington–Fayette, KY	39	7.5	65	1,238	237.9
Little Rock–North Little Rock–Conway, AR	98	13.1	18	2,428	325.2
Los Angeles–Long Beach–Anaheim, CA	1,649	12.6	22	57,361	437.5
Anaheim Division	264	8.3	—	7,097	224.1
Los Angeles Division	1,385	13.9	—	50,264	505.5
Louisville/Jefferson County, KY–IN	178	14.0	15	3,919	308.8
Madison, WI	20	3.0	109	853	127.2
McAllen–Edinburg–Mission, TX	58	6.6	74	1,555	177.7
Memphis, TN–MS–AR	279	20.7	3	7,254	537.9
Miami–Fort Lauderdale–Pompano Beach, FL	1,455	23.6	1	54,624	884.9
Fort Lauderdale Division	461	23.5	—	19,988	1,020.8
Miami Division	781	28.8	—	26,583	981.9
West Palm Beach Division	213	14.1	—	8,053	534.2
Milwaukee–Waukesha, WI	111	7.0	69	3,382	214.4
Minneapolis–St. Paul–Bloomington, MN–WI	182	5.0	90	7,626	208.5
Modesto, CA	27	4.9	92	826	150.2
Myrtle Beach–Conway–North Myrtle Beach, SC–NC	41	8.0	60	1,242	241.4
Nashville–Davidson–Murfreesboro–Franklin, TN	209	10.7	38	5,548	282.9
New Haven–Milford, CT	47	5.5	84	3,343	392.4
New Orleans–Metairie, LA	220	17.3	9	8,225	646.5
New York–Newark–Jersey City, NY–NJ–PA ^f	2,238	11.7	31	135,802	710.1
Nassau County Division	127	4.5	—	5,862	207.5
New Brunswick Division	101	4.2	—	5,179	217.2
New York Division	1,712	14.6	—	111,921	952.8
Newark Division	298	13.7	—	12,840	592.3
North Port–Sarasota–Bradenton, FL	71	8.3	56	2,157	252.4
Ogden–Clearfield, UT	21	3.0	108	445	64.4
Oklahoma City, OK	178	12.5	23	3,007	211.0
Omaha–Council Bluffs, NE–IA	41	4.3	101	540	56.6
Orlando–Kissimmee–Sanford, FL	501	19.0	5	12,868	487.5
Oxnard–Thousand Oaks–Ventura, CA	55	6.5	76	1,142	135.7
Palm Bay–Melbourne–Titusville, FL	74	12.2	25	1,734	285.0
Pensacola–Ferry Pass–Brent, FL	48	9.4	51	1,547	302.4
Philadelphia–Camden–Wilmington, PA–NJ–DE–MD ^e	621	10.2	44	26,297	430.5
Camden Division	103	8.3	—	2,995	240.2
Montgomery County Division	70	3.5	—	2,356	118.5
Philadelphia Division	380	17.7	—	18,505	862.6
Wilmington Division ^e	68	9.3	—	2,441	335.6
Phoenix–Mesa–Scottsdale, AZ	508	10.0	45	13,183	260.5
Pittsburgh, PA	104	4.5	96	3,748	162.3
Portland–South Portland, ME	7	1.3	112	903	166.2
Portland–Vancouver–Hillsboro, OR–WA	136	5.4	87	5,776	230.1

Table 22. Diagnoses of HIV infection, 2020, and persons living with diagnosed HIV infection (prevalence), year-end 2020, by metropolitan statistical area of residence—United States and Puerto Rico (cont)

MSA of residence	Diagnoses, 2020 ^a (COVID-19 pandemic)			Prevalence of diagnosed HIV infection, year-end 2020 ^b (COVID-19 pandemic)	
	No.	Rate ^c	Rank ^d	No.	Rate ^c
Poughkeepsie–Newburgh–Middletown, NY	23	3.4	105	1,838	270.9
Providence–Warwick, RI–MA	85	5.2	89	2,461	151.5
Provo–Orem, UT	12	1.8	111	261	39.4
Raleigh–Cary, NC	152	10.7	37	4,080	287.2
Richmond, VA	125	9.6	49	4,579	351.3
Riverside–San Bernardino–Ontario, CA	504	10.8	35	14,621	312.5
Rochester, NY	74	6.9	70	2,841	266.1
Sacramento–Roseville–Folsom, CA	189	8.0	61	5,412	227.9
St. Louis, MO–IL	200	7.1	68	7,251	258.5
Salt Lake City, UT	78	6.3	77	2,190	176.6
San Antonio–New Braunfels, TX	305	11.8	29	7,417	286.3
San Diego–Chula Vista–Carlsbad, CA	296	8.9	54	13,346	400.5
San Francisco–Oakland–Berkeley, CA	441	9.4	50	23,014	490.0
Oakland Division	229	8.1	—	8,746	310.7
San Francisco Division ^f	198	12.2	—	13,479	829.5
San Jose–Sunnyvale–Santa Clara, CA	108	5.5	85	3,500	177.6
San Juan–Carolina–Caguas, PR	220	11.0	33	9,418	470.2
Scranton–Wilkes-Barre, PA	31	5.6	82	918	166.1
Seattle–Tacoma–Bellevue, WA	289	7.2	67	9,946	247.5
Seattle Division	232	7.5	—	8,344	268.8
Tacoma Division	57	6.2	—	1,602	175.3
Spokane–Spokane Valley, WA	38	6.6	75	741	129.0
Springfield, MA	33	4.7	94	2,256	324.3
Stockton, CA	83	10.8	34	1,432	186.5
Syracuse, NY	28	4.3	100	1,310	202.8
Tampa–St. Petersburg–Clearwater, FL	444	13.7	16	13,761	424.2
Toledo, OH	24	3.7	104	1,130	176.1
Tucson, AZ	88	8.3	57	2,725	256.8
Tulsa, OK	86	8.5	55	2,009	199.6
Virginia Beach–Norfolk–Newport News, VA–NC	219	12.3	24	6,744	378.9
Washington–Arlington–Alexandria, DC–VA–MD ^e –WV	678	10.7	36	34,834	550.8
Frederick Division ^e	94	7.1	—	4,361	331.1
Washington Division ^e	584	11.7	—	30,473	608.5
Wichita, KS	25	3.9	102	993	154.2
Winston-Salem, NC	61	9.0	53	2,070	304.5
Worcester, MA–CT	42	4.4	97	2,236	236.4
Youngstown–Warren–Boardman, OH–PA	30	5.6	81	856	161.1
Subtotal for MSAs (population of $\geq 500,000$)	24,724	10.8	—	872,744	381.5
Metropolitan areas (population of 50,000–499,999)	3,865	6.6	—	109,183	187.1
Nonmetropolitan areas	1,952	4.3	—	58,898	129.4
Total^g	30,689	9.2	—	1,071,392	322.1

Abbreviations: MSA, metropolitan statistical area; CDC, the Centers for Disease Control and Prevention [footnotes only].

Note. Data on persons living with diagnosed HIV infection in 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution. Because of the lack of U.S. census information for all U.S. dependent areas, table includes data for only the 50 states, the District of Columbia, and Puerto Rico.

MSA definitions for this report can be found at <http://www.census.gov/programs-surveys/metro-micro.html>.

^a Data are based on residence at time of diagnosis of HIV infection.

^b Data are based on address of residence at the end of the specified year (i.e., most recent known address).

^c Rates are per 100,000 population.

^d Based on rate.

^e Data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.

^f Counts of diagnoses of HIV infection for the metropolitan divisions do not sum to the MSA total. MSA total includes data from 1 metropolitan division with population of <500,000.

^g Includes persons whose county of residence is unknown.

Web Addresses for Reports of State and Local HIV Surveillance

Alabama <http://www.alabamapublichealth.gov/hiv/publications.html>
Alaska <https://dhss.alaska.gov/dph/Epi/hivstd/Pages/hivdata.aspx>
Arizona <http://www.azdhs.gov/phs/edc/odis/hiv-epidemiology/reports/index.php?pg=annual>
Arkansas <https://www.healthy.arkansas.gov/programs-services/topics/hiv-aids-sti-surveillance>
California <https://www.cdph.ca.gov/Programs/CID/DOA/Pages/OAsre.aspx>
Chicago https://www.cityofchicago.org/city/en/depts/cdph/provdrs/health_data_and_reports/svcs/get_sti_hiv_datainchicago.html
Colorado <https://cdphe.colorado.gov/sti-hiv-data-reporting>
Connecticut <https://portal.ct.gov/DPH/AIDS-Chronic-Diseases/Surveillance/Connecticut-HIV-Statistics>
Delaware <http://www.dhss.delaware.gov/dhss/dph/epi/disstatshiv.html>
District of Columbia <https://dchealth.dc.gov/service/hiv-reports-and-publications>
Florida <http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/index.html>
Georgia <https://dph.georgia.gov/data-fact-sheet-summaries#SurveillanceSummaries>
Guam <http://dphss.guam.gov/content/hiv-surveillance-program>
Hawaii <https://health.hawaii.gov/harmreduction/hiv-aids-surveillance/>
Houston <http://www.houstontx.gov/health/HIV-STD/>
Idaho <http://healthandwelfare.idaho.gov/Health/FamilyPlanningSTDHIV/STDStatistics/tqid/393/Default.aspx>
Illinois <http://dph.illinois.gov/topics-services/diseases-and-conditions/hiv-aids/hiv-surveillance/update-reports>
Indiana <http://www.in.gov/isdh/23266.htm>
Iowa <http://idph.iowa.gov/hivstdhep/hiv/data>
Kansas <https://www.kdhe.ks.gov/474/Kansas-STI-HIV-Statistics>
Kentucky <https://chfs.ky.gov/agencies/dph/dehp/hab/Pages/reportsstats.aspx>
Los Angeles <http://publichealth.lacounty.gov/dhsp/Reports.htm>
Louisiana <http://new.dhh.louisiana.gov/index.cfm/newsroom/category/63>
Maine <https://www.maine.gov/dhhs/mecdc/infectious-disease/hiv-std/data/index.shtml>
Maryland <https://health.maryland.gov/phpa/OIDEOR/CHSE/Pages/statistics.aspx>
Massachusetts <https://www.mass.gov/lists/hivaids-epidemiologic-profiles>
Michigan <https://www.michigan.gov/mdhhs/keep-mi-healthy/chronicdiseases/hivsti/data-and-statistics>
Minnesota <https://www.health.state.mn.us/diseases/hiv/stats/index.html>
Mississippi https://msdh.ms.gov/msdhsite/_static/14,0,150.html
Missouri <http://health.mo.gov/data/hivstdaids/data.php>
Montana <https://dphhs.mt.gov/publichealth/cdepi/surveillance>
Nebraska <https://dhhs.ne.gov/Pages/HIV-Prevention.aspx>
Nevada [http://dpbh.nv.gov/Programs/HIV-OPHIE/dta/Publications/HIV/AIDS_Surveillance_Program_\(HIV-OPHIE\)_-_Publications/](http://dpbh.nv.gov/Programs/HIV-OPHIE/dta/Publications/HIV/AIDS_Surveillance_Program_(HIV-OPHIE)_-_Publications/)
New Hampshire <https://www.dhhs.nh.gov/programs-services/disease-prevention/infectious-disease-control/hiv-prevention>
New Jersey <http://www.nj.gov/health/hivstdtb/hiv-aids/statmap.shtml>
New Mexico <http://nmhealth.org/data/infectious/20/>
New York <https://www.health.ny.gov/diseases/aids/general/statistics/index.htm>
New York City <http://www1.nyc.gov/site/doh/data/data-sets/hiv-aids-surveillance-and-epidemiology-reports.page>
North Carolina <http://epi.publichealth.nc.gov/cd/stds/figures.html>
North Dakota <https://www.ndhealth.gov/hiv/Data/>
Ohio <https://odh.ohio.gov/know-our-programs/hiv-aids-surveillance-program/data-and-statistics/>
Oklahoma <https://oklahoma.gov/health/prevention-and-preparedness/sexual-health-and-harm-reduction-service/fact-sheets-ok-data.html>
Oregon <https://www.oregon.gov/oha/ph/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/HIVData/Pages/index.aspx>
Pennsylvania <https://www.health.pa.gov/topics/programs/HIV/Pages/Annual-Summary.aspx>
Philadelphia <https://www.phila.gov/documents/hiv-aids-data-and-research/>
Puerto Rico <https://www.salud.gov.pr/CMS/471>
Rhode Island <http://health.ri.gov/publications/bytopic.php?parm=HIV>
San Francisco <http://www.sfdph.org/dph/files/reports/default.asp>
South Carolina <http://www.dhec.sc.gov/Health/DiseasesandConditions/InfectiousDiseases/HIVandSTDs/DataandReports/>
South Dakota <http://doh.sd.gov/diseases/infectious/HIV-AIDS/Prevention.aspx>
Tennessee <https://www.tn.gov/health/health-program-areas/statistics/health-data/hiv-data.html>
Texas <http://www.dshs.state.tx.us/hivstd/reports/default.shtml>
U.S. Virgin Islands <https://doh.vi.gov/programs/communicable-diseases>
Utah <http://health.utah.gov/epi/diseases/hivaids/surveillance/index.html>
Vermont <http://www.healthvermont.gov/immunizations-infectious-disease/hiv/surveillance>
Virginia <http://www.vdh.virginia.gov/disease-prevention/disease-prevention/hiv-aids-sexually-transmitted-disease-std-hepatitis-reports/>
Washington <https://doh.wa.gov/data-statistical-reports/diseases-and-chronic-conditions/hiv-data>
West Virginia <https://oebs.wv.gov/hiv-aids/pages/default.aspx#box>
Wisconsin <http://dhs.wisconsin.gov/aids-hiv/Stats/index.htm>
Wyoming <https://health.wyo.gov/publichealth/communicable-disease-unit/hivaids-surveillance-program/>

Note. Electronic reports are not available for the following areas: American Samoa, the Northern Mariana Islands, and the Republic of Palau.

ENDING THE HIV EPIDEMIC: A PLAN FOR AMERICA INITIATIVE, PHASE I AREAS

To accelerate action to end the HIV epidemic, the U.S. Department of Health and Human Services (HHS) has proposed a plan to reduce new HIV infections in the United States. The Ending the HIV Epidemic: A Plan for America (EHE) initiative, Phase I, will implement high-impact HIV prevention, care, treatment, and outbreak response strategies in 48 counties, the District of Columbia, San Juan, Puerto Rico, and 7 states with a substantial rural HIV burden. The goal of the initiative is to reduce new HIV infections by 75% in 5 years, and by 90% in 10 years.

The EHE Phase I jurisdictions include the District of Columbia, San Juan, Puerto Rico, and 48 counties: Arizona—Maricopa County; California—Alameda County, Los Angeles County, Orange County, Riverside County, Sacramento County, San Bernardino County, San Diego County, San Francisco County; Florida—Broward County, Duval County, Hillsborough County, Miami-Dade County, Orange County, Palm Beach County, Pinellas County; Georgia—Cobb County, DeKalb County, Fulton County, Gwinnett County; Illinois—Cook County; Indiana—Marion County; Louisiana—East Baton Rouge Parish, Orleans Parish; Maryland—Baltimore City, Montgomery County, Prince George’s County; Massachusetts—Suffolk County; Michigan—Wayne County; Nevada—Clark County; New Jersey—Essex County, Hudson County; New York—Bronx County, Kings County, New York County, Queens County; North Carolina—Mecklenburg County; Ohio—Cuyahoga County, Franklin County, Hamilton County; Pennsylvania—Philadelphia County; Tennessee—Shelby County; Texas—Bexar County, Dallas County, Harris County, Tarrant County, Travis County; Washington—King County.

EHE Phase I jurisdictions also include the following 7 states with substantial rural HIV burden: Alabama, Arkansas, Kentucky, Mississippi, Missouri, Oklahoma, and South Carolina.

Table A1. Diagnoses of HIV infection among persons aged ≥13 years, by area of residence, 2019 and 2020—Ending the HIV Epidemic Phase I jurisdictions

Area of residence	2019				2020 (COVID-19 pandemic)			
	Persons aged ≥13 years		Total		Persons aged ≥13 years		Total	
	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a	No.	Rate ^a
Arizona								
Maricopa County	505	13.5	506	11.3	477	12.5	479	10.5
California								
Alameda County	217	15.3	218	13.1	157	11.1	157	9.4
Los Angeles County	1,537	18.1	1,539	15.4	1,382	16.4	1,385	13.9
Orange County	247	9.2	247	7.8	264	9.8	264	8.3
Riverside County	266	13.1	266	10.8	239	11.6	241	9.7
Sacramento County	147	11.4	147	9.5	153	11.8	153	9.8
San Bernardino County	295	16.7	295	13.5	263	14.7	263	12.0
San Diego County	383	13.6	384	11.5	296	10.5	296	8.9
San Francisco County	208	26.3	208	23.7	153	19.6	153	17.7
District of Columbia	250	41.2	252	35.6	197	32.3	197	27.6
Florida								
Broward County	597	36.0	597	30.5	460	27.6	461	23.5
Duval County	279	34.9	279	29.1	229	28.4	230	23.8
Hillsborough County	265	21.4	266	18.0	247	19.6	247	16.5
Miami-Dade County	1,134	49.0	1,135	41.9	781	33.7	781	28.8
Orange County	464	39.5	465	33.3	369	31.1	370	26.3
Palm Beach County	236	18.2	237	15.8	213	16.3	213	14.1
Pinellas County	182	21.0	182	18.7	152	17.5	153	15.7
Georgia								
Cobb County	178	28.0	178	23.4	135	21.1	135	17.7
DeKalb County	343	54.4	343	45.1	269	42.4	270	35.4
Fulton County	532	58.9	533	50.0	477	52.0	477	44.3
Gwinnett County	211	27.6	211	22.5	149	19.3	149	15.8
Illinois								
Cook County	882	20.3	884	17.2	774	17.9	776	15.2
Indiana								
Marion County	205	26.0	206	21.4	167	21.1	168	17.4
Louisiana								
East Baton Rouge Parish	155	42.1	155	35.1	124	33.8	124	28.2
Orleans Parish	158	47.3	158	40.4	105	31.5	105	27.0
Maryland^b								
Baltimore City	197	39.0	197	33.1	175	35.1	176	30.0
Montgomery County	131	14.9	131	12.5	80	9.1	80	7.6
Prince George's County	278	36.5	278	30.5	214	28.1	214	23.5
Massachusetts								
Suffolk County	133	18.7	133	16.5	135	19.1	135	16.8
Michigan								
Wayne County	289	19.9	289	16.5	227	15.7	227	13.0
Nevada								
Clark County	451	23.7	451	19.8	343	17.7	343	14.8
New Jersey								
Essex County	233	35.1	233	29.0	199	30.0	199	24.9
Hudson County	150	26.3	150	22.3	123	21.7	124	18.5
New York								
Bronx County	502	43.2	503	35.5	338	29.4	339	24.2
Kings County	474	22.3	474	18.5	444	21.0	444	17.5
New York County	333	22.9	334	20.5	296	20.6	296	18.4
Queens County	354	18.4	355	15.8	316	16.7	316	14.2

Table A1. Diagnoses of HIV infection among persons aged ≥13 years, by area of residence, 2019 and 2020—Ending the HIV Epidemic Phase I jurisdictions (cont)

Area of residence	2019				2020 (COVID-19 pandemic)				
	Persons aged ≥13 years		Total		Persons aged ≥13 years		Total		
	No.	Rate ^a	No.	Rate ^a		No.	Rate ^a	No.	Rate ^a
North Carolina									
Mecklenburg County	267	28.8	268	24.1		209	22.2	209	18.5
Ohio									
Cuyahoga County	159	15.1	159	12.9		185	17.6	185	15.1
Franklin County	215	19.7	215	16.3		204	18.6	205	15.5
Hamilton County	172	25.2	172	21.0		132	19.3	132	16.1
Pennsylvania									
Philadelphia County	445	33.5	445	28.1		331	24.9	332	21.0
Puerto Rico									
San Juan Municipio	88	31.1	88	27.6		71	25.5	71	22.7
Tennessee									
Shelby County	261	34.0	261	27.9		235	30.6	235	25.1
Texas									
Bexar County	331	20.2	331	16.5		282	17.0	282	13.9
Dallas County	748	35.0	749	28.4		658	30.6	659	25.0
Harris County	1,218	32.0	1,219	25.9		921	24.0	924	19.5
Tarrant County	312	18.2	315	15.0		292	16.8	292	13.8
Travis County	177	16.4	177	13.9		162	14.7	162	12.5
Washington									
King County	242	12.6	242	10.8		198	10.2	198	8.7

Abbreviation: CDC, the Centers for Disease Control and Prevention [footnotes only].

Note. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Data are based on residence at time of diagnosis of HIV infection.

^a Rates are per 100,000 population.

^b Data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.

Table A2. Persons aged ≥13 years living with diagnosed HIV infection, by race/ethnicity and area of residence, year-end 2020 (COVID-19 pandemic)—Ending the HIV Epidemic Phase I jurisdictions

Area of residence	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Arizona																
Maricopa County	318	513.3	179	102.8	1,891	890.0	3,685	331.9	18	235.6	5,546	253.0	432	604.6	12,101	316.0
California																
Alameda County	11	319.3	410	88.3	2,239	1,541.9	1,355	456.9	27	235.4	1,707	380.1	280	560.1	6,030	424.6
Los Angeles County	51	308.9	1,813	138.4	9,502	1,379.5	23,584	599.4	50	261.2	12,752	551.1	2,488	1,548.1	50,243	595.0
Orange County	8	143.9	543	91.4	378	815.3	3,535	411.9	10	132.8	2,431	218.9	187	299.0	7,092	264.2
Riverside County	23	232.4	170	117.3	843	635.0	2,688	271.3	7	111.7	5,706	777.7	328	802.0	9,765	474.2
Sacramento County	20	299.8	174	79.2	1,107	874.7	1,034	358.5	16	103.5	1,976	335.7	192	358.8	4,519	347.9
San Bernardino County	15	211.9	105	73.6	1,004	686.1	2,419	256.4	5	90.8	1,134	223.9	163	506.0	4,845	271.6
San Diego County	31	255.0	411	116.0	1,585	1,179.3	5,413	595.4	19	158.5	5,427	412.5	445	548.4	13,331	472.9
San Francisco County	35	2,280.4	785	276.2	1,502	3,846.6	2,844	2,542.9	27	948.2	6,046	1,912.4	564	2,408.6	11,803	1,515.0
District of Columbia	14	1,113.8	77	270.1	9,653	3,690.4	1,211	1,919.3	6	2,127.7	2,036	837.6	791	6,396.6	13,792	2,260.4
Florida																
Broward County	14	427.1	136	216.2	9,198	2,011.3	4,101	789.4	5	441.9	5,924	989.7	597	2,605.3	19,975	1,199.3
Duval County	4	153.5	55	135.3	4,219	1,827.6	447	537.4	2	297.3	1,395	322.8	213	1,331.1	6,335	785.9
Hillsborough County	4	137.1	64	113.9	3,174	1,611.8	1,676	457.7	3	343.2	2,122	343.5	190	910.0	7,233	573.3
Miami-Dade County	7	351.7	75	206.1	10,533	3,101.7	13,045	802.6	7	1,279.6	2,515	848.0	376	2,614.4	26,559	1,147.4
Orange County	6	230.7	69	101.8	3,807	1,639.7	2,514	661.4	10	727.1	2,346	485.9	221	1,166.3	8,973	756.7
Palm Beach County	5	238.2	34	90.0	4,676	2,032.3	1,371	472.1	2	310.7	1,771	242.4	188	1,292.8	8,047	616.0
Pinellas County	2	97.7	47	154.7	1,454	1,740.9	575	696.8	0	0.0	2,596	395.8	152	1,156.1	4,826	555.8
Georgia																
Cobb County	0	0.0	16	44.4	2,126	1,202.9	408	529.6	1	410.1	718	212.5	209	1,816.2	3,478	542.9
DeKalb County	2	209.7	70	173.1	6,590	1,932.2	705	1,545.7	3	889.6	1,162	592.8	459	4,676.6	8,992	1,417.8
Fulton County	10	776.8	54	75.8	11,495	2,933.2	1,012	1,665.4	7	4,126.5	2,592	688.2	833	5,537.4	16,004	1,745.2
Gwinnett County	0	0.0	61	59.6	1,815	833.3	613	394.4	1	308.5	511	183.0	181	1,262.2	3,182	412.9
Illinois																
Cook County	24	465.4	348	100.2	12,587	1,277.6	5,813	556.0	11	1,347.9	5,296	281.2	1,849	3,314.8	25,929	599.8
Indiana																
Marion County	2	130.7	137	464.8	2,357	1,070.1	504	668.0	3	1,519.9	1,569	349.6	223	1,381.9	4,795	605.6
Louisiana																
East Baton Rouge Parish	3	367.2	10	78.8	3,519	2,112.5	84	594.1	0	0.0	432	255.6	55	1,373.5	4,103	1,116.9
Orleans Parish	4	506.1	23	226.8	3,340	1,729.1	296	1,740.7	0	0.0	1,152	1,061.8	131	3,403.5	4,948	1,483.6
Maryland^e																
Baltimore City	9	650.4	21	148.1	8,137	2,658.1	390	1,640.6	0	0.0	774	532.1	569	7,352.9	9,900	1,984.7
Montgomery County	3	200.6	75	53.2	2,285	1,399.1	627	384.7	2	468.4	573	146.5	300	1,530.5	3,865	439.3
Prince George's County	4	211.2	41	122.5	6,084	1,261.6	671	503.5	0	0.0	366	375.1	898	6,828.2	8,064	1,058.4
Massachusetts																
Suffolk County	6	463.8	123	180.3	2,156	1,583.8	1,506	989.4	1	248.8	1,806	539.0	115	889.2	5,713	808.9
Michigan																
Wayne County	8	160.2	27	52.4	5,409	999.4	331	403.0	0	0.0	1,007	136.6	225	776.0	7,007	484.6

Table A2. Persons aged ≥13 years living with diagnosed HIV infection, by race/ethnicity and area of residence, year-end 2020 (COVID-19 pandemic)—Ending the HIV Epidemic Phase I jurisdictions (cont)

Area of residence	American Indian/ Alaska Native		Asian ^a		Black/African American		Hispanic/Latino ^b		Native Hawaiian/ other Pacific Islander		White		Multiracial		Total ^c	
	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d	No.	Rate ^d
Nevada																
Clark County	35	382.5	337	160.8	2,688	1,185.6	2,620	455.1	49	347.4	3,298	391.1	358	587.1	9,385	483.9
New Jersey																
Essex County	0	0.0	29	74.3	5,967	2,330.1	1,812	1,206.6	3	1,136.0	514	247.5	630	7,585.3	8,973	1,353.6
Hudson County	3	347.1	95	100.6	1,325	2,191.5	2,280	972.0	0	0.0	834	488.6	331	4947.4	4,874	858.1
New York																
Bronx County	6	187.2	98	201.8	11,641	3,413.5	13,697	2,149.9	2	344.3	852	781.7	1,339	13,358.9	27,676	2,407.7
Kings County	6	149.3	371	137.4	14,295	2,241.9	7,104	1,828.9	5	811.4	2,706	349.5	1,719	5,013.6	26,236	1,243.8
New York County	8	395.1	567	305.4	7,318	4,153.9	8,869	2,497.5	6	1,039.4	7,908	1,139.1	1,655	6,646.7	26,448	1,838.4
Queens County	12	179.0	790	153.5	5,016	1,459.2	6,960	1,356.8	9	381.7	1,972	407.9	1,273	3,806.7	16,064	846.6
North Carolina																
Mecklenburg County	8	289.8	47	79.0	4,200	1,421.2	582	504.5	1	261.6	1,007	222.5	338	2,133.7	6,186	656.7
Ohio																
Cuyahoga County	2	123.0	19	54.2	2,810	938.2	561	906.5	0	0.0	1,254	198.0	248	1,474.9	4,920	469.3
Franklin County	7	334.4	37	57.7	2,312	948.4	343	608.4	1	220.8	2,200	312.0	283	1,083.8	5,204	473.9
Hamilton County	0	0.0	19	95.6	1,805	1,051.1	115	557.7	1	147.9	994	217.9	173	1,399.9	3,115	456.4
Pennsylvania																
Philadelphia County	29	1,015.8	166	158.4	10,847	2,059.3	2,807	1,514.5	5	1,553.8	2,577	532.0	587	2,608.7	17,019	1282.6
Puerto Rico^f																
San Juan Municipio	0	—	0	—	4	—	3,408	—	0	—	18	—	3	—	3,433	1,231.0
Tennessee																
Shelby County	2	155.3	13	58.9	5,136	1,260.9	238	564.0	1	791.0	609	213.6	283	3,258.8	6,283	819.4
Texas																
Bexar County	3	73.3	46	88.4	957	758.8	4,386	444.7	0	0.0	1,061	226.2	303	1,436.2	6,756	406.8
Dallas County	8	124.1	217	147.1	8,101	1,640.6	5,113	622.9	8	810.7	4,486	687.2	1,050	4,113.0	18,983	883.8
Harris County	6	79.2	366	126.0	12,760	1,741.8	8,616	536.6	3	151.3	4,196	362.8	1,119	2,538.4	27,068	705.1
Tarrant County	2	30.1	95	92.5	2,705	914.3	1,516	316.0	4	119.5	1,568	191.6	318	1,133.5	6,208	357.9
Travis County	4	142.6	69	82.7	1,141	1,271.2	1,917	555.2	1	125.5	1,807	321.4	221	1164.4	5,160	467.7
Washington																
King County	37	325.2	321	81.4	1,430	1,132.5	1,146	651.5	27	182.3	3,639	316.1	517	715.8	7,117	365.7

Abbreviation: CDC, the Centers for Disease Control and Prevention [footnotes only].

Note. Data for the year 2020 are preliminary and based on deaths reported to CDC as of December 2021. Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state/local jurisdictions. Numbers less than 12, and rates based on these numbers, should be interpreted with caution. Data are based on residence at the end of the specified year (i.e., most recent known address).

^a Includes Asian/Pacific Islander legacy cases (see Technical Notes).^b Hispanic/Latino persons can be of any race.^c Includes persons whose race/ethnicity is unknown.^d Rates are per 100,000 population.^e Data for Maryland should be interpreted with caution due to incomplete reporting of case information to CDC during December 2021.^f Rates by race/ethnicity are not provided because U.S. census information is limited for Puerto Rico.

National HIV Surveillance System (NHSS)

Attachment 6(a)

2020 Privacy Impact Assessment

Privacy Impact Assessment Form

v 1.47.4

Status	Draft	Form Number	F-25406	Form Date	5/18/2020 12:30:15 PM
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Question

Answer

1 OPDIV:

CDC

2 PIA Unique Identifier:

P-9872440-284299

2a Name:

OID DHAP Enhanced HIV-AIDS Reporting System (eHARS)

3 The subject of this PIA is which of the following?

- General Support System (GSS)
- Major Application
- Minor Application (stand-alone)
- Minor Application (child)
- Electronic Information Collection
- Unknown

3a Identify the Enterprise Performance Lifecycle Phase of the system.

Operations and Maintenance

3b Is this a FISMA-Reportable system?

- Yes
- No

4 Does the system include a Website or online application available to and for the use of the general public?

- Yes
- No

5 Identify the operator.

- Agency
- Contractor

6 Point of Contact (POC):

POC Title	IT Specialist
POC Name	Carman Layne
POC Organization	NCHHSTP/Informatics
POC Email	iws6@cdc.gov
POC Phone	770-488-8116

7 Is this a new or existing system?

- New
- Existing

8 Does the system have Security Authorization (SA)?

- Yes
- No

8b Planned Date of Security Authorization

May 29, 2020

 Not Applicable

11	Describe the purpose of the system.	The Division of HIV/AIDS Prevention (DHAP) Enhanced HIV-AIDS Reporting System (eHARS) system gathers HIV/AIDS data
12	Describe the type of information the system will collect, maintain (store), or share. (Subsequent questions will identify if this information is PII and ask about the specific data elements.)	The information the system collects is: Date of Birth, Date of Death (if deceased), City, Marital status, County, State, Sex, Gender, Race, Ethnicity, Birth Country, Risk factors, Routine Interstate Duplicate Review (RIDR) data, Provider information,
13	Provide an overview of the system and describe the information it will collect, maintain (store), or share, either permanently or temporarily.	The eHARS system is used to collect information about the Nationwide HIV/AIDS epidemic. This data is stored at the State and Local Health Department site level. Each participating
14	Does the system collect, maintain, use or share PII ?	<input checked="" type="radio"/> Yes <input type="radio"/> No
15	Indicate the type of PII that the system will collect or maintain.	<input type="checkbox"/> Social Security Number <input checked="" type="checkbox"/> Date of Birth <input type="checkbox"/> Name <input type="checkbox"/> Photographic Identifiers <input type="checkbox"/> Driver's License Number <input type="checkbox"/> Biometric Identifiers <input type="checkbox"/> Mother's Maiden Name <input type="checkbox"/> Vehicle Identifiers <input type="checkbox"/> E-Mail Address <input type="checkbox"/> Mailing Address <input type="checkbox"/> Phone Numbers <input type="checkbox"/> Medical Records Number <input type="checkbox"/> Medical Notes <input type="checkbox"/> Financial Account Info <input type="checkbox"/> Certificates <input type="checkbox"/> Legal Documents <input type="checkbox"/> Education Records <input type="checkbox"/> Device Identifiers <input type="checkbox"/> Military Status <input type="checkbox"/> Employment Status <input type="checkbox"/> Foreign Activities <input type="checkbox"/> Passport Number <input type="checkbox"/> Taxpayer ID Date of Death/ User Authentication City, County, State Birth Country Race/ Ethnicity Sex/Gender <input type="checkbox"/> Employees <input type="checkbox"/> Public Citizens <input type="checkbox"/> Business Partners/Contacts (Federal, state, local agencies) <input type="checkbox"/> Vendors/Suppliers/Contractors <input checked="" type="checkbox"/> Patients Other <input type="text"/>
16	Indicate the categories of individuals about whom PII is collected, maintained or shared.	<input type="checkbox"/> Employees <input type="checkbox"/> Public Citizens <input type="checkbox"/> Business Partners/Contacts (Federal, state, local agencies) <input type="checkbox"/> Vendors/Suppliers/Contractors <input checked="" type="checkbox"/> Patients Other <input type="text"/>
17	How many individuals' PII is in the system?	<input type="text" value="1,000,000 or more"/>
18	For what primary purpose is the PII used?	The purpose of the PII is to help CDC determine how many people are dying from HIV/AIDS in a particular area.
19	Describe the secondary uses for which the PII will be used (e.g. testing, training or research)	If the death rate is increasing or decreasing.
20	Describe the function of the SSN.	<input type="text" value="N/A"/>

20a	Cite the legal authority to use the SSN.	N/A
21	Identify legal authorities governing information use and disclosure specific to the system and program.	Public Health Service Act, Section 301, "Research and Investigation," (42 U.S.C. 241); and Sections 304, 306 and 308(d) which discuss authority to maintain data and provide assurances of confidentiality for health research and related activities (42 U.S.C. 242 b, k, and m(d)).
22	Are records on the system retrieved by one or more PII data elements?	<input type="radio"/> Yes <input checked="" type="radio"/> No
23	Identify the sources of PII in the system.	<p>Directly from an individual about whom the information pertains</p> <p><input type="checkbox"/> In-Person</p> <p><input type="checkbox"/> Hard Copy: Mail/Fax</p> <p><input type="checkbox"/> Email</p> <p><input type="checkbox"/> Online</p> <p><input type="checkbox"/> Other</p> <p>Government Sources</p> <p><input type="checkbox"/> Within the OPDIV</p> <p><input type="checkbox"/> Other HHS OPDIV</p> <p><input checked="" type="checkbox"/> State/Local/Tribal</p> <p><input type="checkbox"/> Foreign</p> <p><input type="checkbox"/> Other Federal Entities</p> <p><input type="checkbox"/> Other</p> <p>Non-Government Sources</p> <p><input type="checkbox"/> Members of the Public</p> <p><input type="checkbox"/> Commercial Data Broker</p> <p><input type="checkbox"/> Public Media/Internet</p> <p><input type="checkbox"/> Private Sector</p> <p><input type="checkbox"/> Other</p>
23a	Identify the OMB information collection approval number and expiration date.	OMB No. 0920-0573 expires 06/30/2019
24	Is the PII shared with other organizations?	<input type="radio"/> Yes <input checked="" type="radio"/> No
25	Describe the process in place to notify individuals that their personal information will be collected. If no prior notice is given, explain the reason.	The data is received in conjunction with Notifiable Disease Surveillance; it is not originally collected by CDC, but rather forwarded from the State Health Departments who receive it from the individual clinics. It is voluntary that notifiable disease cases be reported to CDC by state and territorial jurisdictions (without direct personal identifiers) for nationwide aggregation and monitoring of disease data.
26	Is the submission of PII by individuals voluntary or mandatory?	<input checked="" type="radio"/> Voluntary <input type="radio"/> Mandatory
27	Describe the method for individuals to opt-out of the collection or use of their PII. If there is no option to object to the information collection, provide a reason.	At the state level, there is no individual consent form or mechanism to opt out of data collection for notifiable disease reporting mandated by state or local law.

28 Describe the process to notify and obtain consent from the individuals whose PII is in the system when major changes occur to the system (e.g., disclosure and/or data uses have changed since the notice at the time of original collection). Alternatively, describe why they cannot be notified or have their consent obtained.	Individuals cannot be directly notified as the data is not originally collected by CDC, but forwarded from the State Health Departments who receive it from the individual clinics. Reporting occurs as part of mandated, Health Insurance Portability and Accountability Act (HIPAA) exempt, notifiable disease reporting in each state.
29 Describe the process in place to resolve an individual's concerns when they believe their PII has been inappropriately obtained, used, or disclosed, or that the PII is inaccurate. If no process exists, explain why not.	If an individual has concerns that their PII has been inappropriately obtained, used or disclosed, they will contact their State and Local Health Departments, HIV Surveillance Programs for assistance.
30 Describe the process in place for periodic reviews of PII contained in the system to ensure the data's integrity, availability, accuracy and relevancy. If no processes are in place, explain why not.	There are no periodic reviews of the PII contained within the system because there is no method to validate the accuracy or authenticity of the data since the data is received from the State and Local Health Departments.
31 Identify who will have access to the PII in the system and the reason why they require access.	<input checked="" type="checkbox"/> Users Will have access to their PII for matching HIV cases, initiate a HIV case investigation and for required HIV surveillance activities like Not in Care
	<input checked="" type="checkbox"/> Administrators Local state health department eHARS database for system maintenance.
	<input type="checkbox"/> Developers
	<input type="checkbox"/> Contractors
	<input type="checkbox"/> Others
32 Describe the procedures in place to determine which system users (administrators, developers, contractors, etc.) may access PII.	The State and Local Health Departments HIV surveillance program coordinator determines which staff members may use the eHARS system, based on the staff member's roles and
33 Describe the methods in place to allow those with access to PII to only access the minimum amount of information necessary to perform their job.	The least privilege model is utilized to allow those with access to PII to only access the minimum amount of information necessary to perform their job.
34 Identify training and awareness provided to personnel (system owners, managers, operators, contractors and/or program managers) using the system to make them aware of their responsibilities for protecting the information being collected and maintained.	CDC personnel are required to complete the annual OCISO Security Awareness Training (SAT) to make them aware of their responsibilities for protecting the information being collected and maintained.
35 Describe training system users receive (above and beyond general security and privacy awareness training).	None
36 Do contracts include Federal Acquisition Regulation and other appropriate clauses ensuring adherence to privacy provisions and practices?	<input checked="" type="radio"/> Yes <input type="radio"/> No
37 Describe the process and guidelines in place with regard to the retention and destruction of PII. Cite specific records retention schedules.	Records are retained and disposed of in accordance with the CDC Records Control Schedule, 4-23 (HIV/AIDS Surveillance Database). Authorized Disposition: PERMANENT. Transfer a "snapshot" copy of the HIV Surveillance master file to NARA at 5 year intervals, when the newest record is 5 years old. Access restrictions specified under Item 4-22, Family of HIV Surveys, also apply to these records.

	<p>Administrative: CDC will not receive or store PII. All State and Local Health Department staff collecting data will participate in a training that will review protections for privacy and confidentiality of all data, including PII.</p> <p>Technical: The data is transferred from the State Health Departments to the CDC using two forms of encryption, Pretty Good Privacy (PGP) to encrypt the data at the source and Secure Sockets Layer (SSL)/Transport Layer Security (TLS) to encrypt the connection between the State Health Departments and SAMS.</p> <p>Physical: The CDC eHARS and National Data Processing (NDP) servers are housed in a secure CDC computer room that require building and room electronic access using the individuals Personal Identity Verification (PIV) card. The Chamblee campus has a 24/7 gate guard that requires use of the individuals PIV card and a valid parking sticker to gain access.</p>
General Comments	
OPDIV Senior Official for Privacy Signature	

National HIV Surveillance System (NHSS)

Attachment 6(b)

2022 Authority to Operate

Authorization to Operate (ATO)

Date:

System name:

System acronym:

System Business Steward:

I verify that the system specified meets all requirements for operation.

System Business Steward Signature and Date

System Security Steward:

I certify that the system specified meets all security requirements and recommend:

System Security Steward and Date

Certification Agent:

I certify that the system specified meets all security requirements and recommend:

1. Authorization to operate until _____.
2. Denial of operation authorization (if denied, see below for further comments).

Certification Agent Signature and Date

Comments:

National HIV Surveillance System (NHSS)

Attachment 7(a)

Assurance of Confidentiality Statement for HIV Surveillance and Surveillance-related Data

**ASSURANCE OF CONFIDENTIALITY STATEMENT
FOR THE NATIONAL HUMAN IMMUNODEFICIENCY VIRUS (HIV)
SURVEILLANCE SYSTEM (NHSS) AND SURVEILLANCE-RELATED DATA
(INCLUDING SURVEILLANCE INFORMATION, CASE INVESTIGATIONS,
TRANSMISSION CLUSTER INVESTIGATIONS, SUPPLEMENTAL SURVEILLANCE
PROJECTS, RESEARCH ACTIVITIES, AND EVALUATIONS)**

October 2019

The national HIV surveillance program is coordinated by the HIV Incidence and Case Surveillance Branch (HICSB) and the Behavioral and Clinical Surveillance Branch (BCSB) of the Division of HIV/AIDS Prevention (DHAP), in the National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP), a component of the Centers for Disease Control and Prevention (CDC), an agency of the United States Department of Health and Human Services. The surveillance information requested by CDC consists of reports of persons with suspected or confirmed HIV infection at any clinical stage of disease, including children born to mothers infected with HIV, and reports of persons enrolled in studies designed to evaluate the surveillance program and to assess behaviors, medical care, and health status of people living with HIV or at risk of acquiring HIV. The information is collected from laboratory, clinical, and other medical or public health records of suspected or confirmed HIV cases; and from surveys or investigations that interview persons in recognized HIV risk groups or known to have a diagnosis of HIV.

Surveillance data collection is conducted by state and territorial health departments which forward information to CDC after deleting patient and physician names and other identifying or locating information. Records maintained by CDC are identified by computer-generated codes, patient date of birth, and a state/city assigned patient identification number. The data are used only for public health purposes, including public health statistical, epidemiologic, and analytic summaries and for public health evaluations, investigations and research by CDC scientists and cooperating state and local health officials to understand and control the spread of HIV. In rare instances, expert CDC staff, at the invitation of state or local health departments, may participate in research or case investigations of unusual transmission circumstances or cases of potential threat to the public health. For example, CDC staff may conduct epidemiologic and laboratory investigations of cases that may have rare or previously unidentified modes of HIV transmission, unusual clinical manifestations, unusual laboratory test results, or molecular HIV sequence data that indicate recent or rapidly growing HIV transmission clusters. These include, but are not limited to, transfusion and transplant-related cases, cases of HIV transmitted in occupational settings, cases of HIV-2 infection, cases transmitted through female-to-female sexual contact, cases with potentially unusual HIV strain variants, cases with clinical evidence of HIV infection but negative HIV test results, investigation of false positive clusters and discordant results, and breakthrough infections in the presence of pre-exposure prophylaxis. In these rare instances, with authorization, CDC staff may collect and maintain information that could directly identify individuals.

Information collected by CDC under Sections 304 and 306 of the Public Health Service Act (42 U.S.C. 242b and 242k) as part of the HIV surveillance system that would permit direct or indirect identification of any individual or institution on whom a record is maintained, and any identifiable information collected during the course of an investigation on either persons supplying the information or persons described in it, is collected with a guarantee that it will be held in confidence, will be used only for the purposes stated in this Assurance, and will not otherwise be disclosed or released without the consent of the individual or institution in accordance with Section 308 (d) of the Public Health Service Act (42 U.S.C. 242m(d)). This protection lasts

forever, even after death. Information that could be used to identify any individual or institution on whom a record is maintained by CDC will be kept confidential. Full names, street addresses, social security numbers, and telephone numbers will not be reported to this national HIV surveillance system. Medical, personal, and lifestyle information about the individual, and a computer-generated patient code (e.g., soundex code) will be collected and reported to the national HIV surveillance system.

Surveillance information reported to CDC will be used only for public health purposes without identifiers primarily for public health statistical, epidemiologic, and analytic summaries and for public health evaluations in which no individual or institution on whom a record is maintained can be identified, and secondarily, for special public health research or investigations of the characteristics of populations suspected or confirmed to be at increased risk for infection with HIV and of the natural history and epidemiology of HIV. When necessary for confirming surveillance information or in the interest of public health and disease prevention, CDC may confirm information contained in case reports or may notify other medical personnel or health officials of such information; in each instance, the number of persons with access to the information will be kept to a minimum, only the minimum information necessary for the applicable activity will be disclosed, and de-identified data will be used whenever possible.

Surveillance data will only be released only for public health purposes and in accordance with the policies for data release established by the Council of State and Territorial Epidemiologists and data re-release agreements with health departments. Surveillance data will only be released to other components of CDC; health agencies of federal, state, or local governments; and select members of the public. CDC HIV surveillance or research information that could be used to identify any individual or institution on whom a record is maintained, either directly or indirectly, will not be made available to anyone for non-public health purposes. In particular, HIV surveillance or research information that could be used to identify any individual or institution on whom a record is maintained, either directly or indirectly, will not be disclosed for commercial purposes, nor disclosed to the public; to family members; to parties involved in civil, criminal, or administrative litigation; or to non-health agencies of the federal, state, or local governments.

Information in this surveillance system will be kept confidential. Only authorized employees of DHAP in HICSB, BCSB, the Quantitative Sciences and Data Management Branch and Laboratory Branch, their contractors, other authorized staff and other authorized agents granted access, guest researchers, fellows, visiting scientists, authorized external collaborating researchers, research interns, and graduate students who participate in activities jointly approved by CDC and the sponsoring academic institution, and the like, will have access to the information.

Authorized users of protected information are required to handle the information in accordance with procedures outlined in the Confidentiality Security Statement for the National Human Immunodeficiency Virus (HIV) Surveillance System (NHSS) and Surveillance-Related Data (including surveillance information, case investigations, transmission cluster investigations, supplemental surveillance projects, research activities, and evaluations).

CDC is in compliance with applicable federal law requiring the protection of federal computer networks from cybersecurity risks like hacking, internet attacks, and other security weakness; computer network experts working for, or on behalf, of the government, may intercept and review information sent through government networks for cyber threats if the information is sent through the government network triggers a cyber threat indicator.

National HIV Surveillance System (NHSS)

Attachment 7(b)

HIV Surveillance Confidentiality Security Statement and Access Packet

CONFIDENTIALITY SECURITY STATEMENT

FOR THE NATIONAL HUMAN IMMUNODEFICIENCY VIRUS (HIV)

SURVEILLANCE SYSTEM (NHSS) AND SURVEILLANCE-RELATED DATA

(INCLUDING SURVEILLANCE INFORMATION, CASE INVESTIGATIONS,

TRANSMISSION CLUSTER INVESTIGATIONS, SUPPLEMENTAL SURVEILLANCE

PROJECTS, RESEARCH ACTIVITIES, AND EVALUATIONS)

October 2019

The HIV Incidence and Case Surveillance Branch (HICSB) and the Behavioral and Clinical Surveillance Branch (BCSB), Division of HIV/AIDS Prevention (DHAP), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) in the Office of Infectious Diseases (OID), have received approval for another extension of a 308(d) Assurance of Confidentiality protection for data collected through the National HIV Surveillance System (NHSS) and Surveillance-Related Data (including surveillance information, case investigations, transmission cluster investigations, supplemental surveillance projects, research activities, and evaluations) conducted under cooperative agreements with state, city and territorial health departments. This extension is due to expire June 2023.

Because of this Assurance of Confidentiality, documents and files which contain patient-level information on persons reported as having HIV infection or having been exposed to HIV infection, for example in the case of infants born to HIV-infected mothers, or individual-level data from surveillance surveys, case investigations, transmission cluster investigations and evaluation studies, are considered confidential materials and must be safeguarded to the greatest extent possible. The confidentiality of HIV surveillance program data collected at the local and state levels is protected under state/territorial law, rule, or regulation. Although patient and physician names, street addresses, phone numbers, or other directly identifying information, are not routinely reported to CDC by health departments, HIV surveillance case reports and other surveillance-related data are highly sensitive, and may have the potential to indirectly identify infected individuals. Therefore, these HIV surveillance and surveillance-related data have a need for 308(d) protection, and require a high level of safeguards.

Protected Information

It is the professional, ethical and legal responsibility of all DHAP authorized users of protected HIV surveillance and surveillance-related data, who participate in activities jointly approved by CDC and the sponsoring public health or academic institution, and the like, who are granted access to data from HIV surveillance program activities, to protect the confidentiality of data on all persons reported as having HIV or participating in CDC-sponsored surveys, investigations, or studies related to HIV surveillance. This document describes the procedures and practices that DHAP intends to use to protect the confidentiality of the data collected as part of HIV surveillance program activities, including related laboratory and epidemiologic data collected for

investigations, whether they are sponsored by HICSB or BCSB or at the request of or in collaboration with health departments.

Portions of the data analysis and programming work supporting this project are performed under contract. Therefore, we have included reference to contractors in the Assurance of Confidentiality Statement and this Confidentiality Security Statement. The Office of Grants Services and Office of Acquisition Services should include appropriate reference to 308(d) Assurance of Confidentiality protection requirements in applicable cooperative agreements, grants and contracts that support this work. All contractor staff undergo limited background investigations prior to performing any work at CDC.

Authorized Users of Protected Information

The applicable HICSB or BCSB Branch Chief or their designee authorizes access and use of protected HIV surveillance and surveillance-related data. Authorized users of HIV surveillance and surveillance-related data include permanent employees of HICSB, BCSB, LB, QSDMB, their contractors, other authorized staff (e.g., NCHHSTP staff involved in transmissions cluster investigations, Information Technology Services Office (ITSO) staff who access or support servers with protected data, data management personnel) and other authorized agents. Other authorized agents include guest researchers, fellows, visiting scientists, authorized external collaborating researchers, interns and graduate students. Authorized users are required to maintain and protect at all times the confidentiality of records that may come into their presence or under their control. In particular, authorized users of protected information may not discuss, reveal, present, or confirm to external parties information on, or characteristics of, individual cases, or small numbers of cases or clusters, in any manner that could directly or indirectly identify any individual on whom a record is maintained by an HIV surveillance program. In addition, authorized users of protected information must abide by the data re-release agreements between CDC, the Council of State and Territorial Epidemiologists (CSTE), and individual state/territorial health departments. To assure that authorized users of protected information are aware of this responsibility and the penalties for failing to comply, each person will be required to read and sign a Nondisclosure Agreement applicable to full-time equivalent staff members (FTEs), contractors, or guest researchers (See Attachments 2, 3, 4) assuring that all information in HIV surveillance program records and related files will be kept confidential, and used only for public health purposes.

Training and Oversight

Annual confidentiality training is mandatory for all authorized users of protected information. All staff working on surveillance program activities are required to take annual security and confidentiality training that includes review of the assurance of confidentiality, and security and confidentiality procedures. Authorized users of protected information shall be required to sign confidentiality agreements on an annual basis. It shall be the responsibility of the Technical and Business Stewards to provide for in-person and/or on-line training as needed and to obtain signed agreements from employees, contractors, and other authorized individuals who are granted access to HIV surveillance information.

The Business Steward has general responsibility for the operation and integrity of the system(s) and activities covered by this Assurance. The Business Steward for HIV surveillance program activities is the Chief, HICSB, DHAP (Dr. Angela L. Hernandez); alternate is the Deputy Chief, HICSB, DHAP (Magan Pearson) (Acting). The Business Steward for Behavioral and Clinical Surveillance program activities is the Chief, BCSB, DHAP (Dr. Joseph Prejean); alternate is Deputy Chief, BCSB, DHAP (Melissa Cribbin). The Technical Stewards are Patricia Sweeney, Epidemiologist, HICSB; Melissa Cribbin, Deputy Branch Chief, BCSB; Kimberly Crenshaw, Lead, Data Management Team, QSDMB; and William M. Switzer, Lead, Molecular Epidemiology Team, LB. Technical stewards serve as points of contact for the Assurance and breach reporting, conduct training and track compliance and ensure implementation of standard operating procedures within each branch.

Nondisclosure and Data Release Restriction Agreements

Attachment 2 is the FTE Nondisclosure Agreement that all CDC employees participating in HIV surveillance program activities will sign. Attachment 3 is the Contractor Nondisclosure Agreement—Safeguards for Individuals and Establishments Against Invasions of Privacy. Contracts needed to support HIV surveillance program activities contain 308(d) clauses, and all contractor employees with access to the data are required to sign this agreement. Attachment 4 is the Non-CDC Employee 308(d) Pledge of Confidentiality for students, guest researchers and other non-FTEs. Attachment 5 is the HIV Surveillance and Surveillance-Related Data Release Policy. Attachment 6 is the Agreement to Abide by Restrictions on Release of HIV Surveillance and Surveillance-Related Data Collected and Maintained by DHAP which must be signed by authorized staff granted access to records, files and databases containing HIV surveillance and surveillance-related information. The provisions of Attachment 5 and 6 have been negotiated between CDC, CSTE, and individual state/territorial health departments. Attachment 7 is the Request for Access to HIV Surveillance and Surveillance-Related Databases form. Originals of these documents will be retained by HICSB, BCSB, QSDMB and LB who will be responsible for tracking completion of training and forms. Documentation of forms and training completion for other authorized staff (outside of those branches) will be maintained by HICSB. Compiled information on training compliance will be made available for review upon request by Confidentiality Unit Staff in the Office of the CDC Associate Director for Science. Documentation listing contractors will be maintained and should be made available to the DHAP contract technical monitors by the Technical Stewards.

Restrictions on Use of Information and Safeguarding Measures

Information collected in the course of conducting HIV surveillance and surveillance-related program activities, including case investigations, transmission cluster investigations, supplemental surveillance projects, research activities, evaluations and other activities as specified in the Description of Covered Activities (Attachment 1) will be used only for public health purposes. Surveillance information reported to CDC will be used primarily for public health statistical, epidemiologic, and analytic summaries and for public health evaluations in which no individual or institution on whom a record is maintained can be identified, and secondarily, for special public health research or investigations of the characteristics of

populations suspected or confirmed to be at increased risk for infection with HIV and of the natural history and epidemiology of HIV to inform public health activities and shall not otherwise be divulged or made known in any manner that could result in the direct or indirect identification of any individual on whom a record is maintained.

Except in rare and unusual circumstances, records or data containing names or other personally identifying information for individual patients will not be received by DHAP on any records from HIV surveillance program activities. Although data collection forms that CDC provides to HIV surveillance cooperative agreement recipients to use in HIV case reporting or CDC-sponsored surveillance projects or activities may enable the collection of personal identifiers at the local, state, or territorial level, these identifiers will be removed before data are transmitted to DHAP.

In unusual circumstances, such as investigations of cases involving rare or unusual modes of HIV transmission or potential threats to public health (e.g. unusual strains of HIV that may be undetected through routine screening of the blood supply, breakthrough infections in persons on HIV pre-exposure prophylaxis) in which expert CDC staff participate with local/state/territorial health department staff at their invitation, CDC staff may, with appropriate prior supervisory approval, retain records with information that identifies patients, physicians or other health care providers, laboratory personnel and other records necessary to the conduct of the epidemiologic investigation. Such records require additional physical and electronic protections; must be maintained in a locked file cabinet in a locked room which is secured by restricted access and if in electronic form, must be encrypted, retained in a secure environment, and stored using secure, CDC approved methods. Electronic data are transmitted via the Secure Access Management Services (SAMS) or other secure file transport mechanism implemented or approved by CDC. All data transmissions must be encrypted after deleting patient and physician identifiers. In all circumstances, only the minimum identifying information necessary to the conduct of the investigation shall be maintained. Disclosure of identifying information from such investigations is prohibited, except as provided in the Assurance of Confidentiality. In addition, confidential information related to investigations including laboratory test results and epidemiologic data may not be released without the authorization of the jurisdiction(s) involved in the investigation in accordance with data release policies.

Data collection forms will contain only assigned patient identification numbers and may contain computer-generated soundex codes from patient surnames, or other state-assigned codes. However, because these are 308(d) protected data, they will be transmitted to CDC in a secure and confidential manner. Hard copies of data collection forms may only be transmitted to CDC DHAP staff if identifying information has been removed and records placed in sealed envelopes marked "confidential." Following data entry and verification, as soon as feasible, such hard copies should be shredded or destroyed.

Authorized users of protected information are responsible for protecting all confidential records containing information that could potentially identify, directly or indirectly, any person on whom a record is maintained from visual observation, from theft, or from accidental loss or

misplacement due to carelessness. All reasonable precautions will be taken to protect confidential surveillance data.

All contractor personnel will receive project-specific training in confidentiality procedures, in addition to the training and background investigations they must receive/undergo prior to being hired by the contractor. All contractors must be located and their records maintained in a physically secure environment with appropriate oversight by the technical monitor.

If a local/state/territorial health department inadvertently fails to remove personal identifiers of individual patients, their family members or sexual or drug-using partners, or health care providers before forwarding hard copies or electronic copies of forms to DHAP, or incorrectly enters such identifying data into comments fields, DHAP staff will immediately delete the identifiers, remind health department personnel of the appropriate procedures to follow to delete such identifiers prior to transmitting records and forms to CDC, and report the incident to the technical steward, branch management, and the NCHHSTP Information Systems Security Officer (ISSO) as needed.

Except as needed for operational purposes, photocopies of confidential records are not to be made. If photocopies are necessary, care should be taken that all copies and originals are recovered from the copy machines and work areas. Correspondence or hard-copy files containing sensitive information, e.g., regarding an epidemiologic case investigation, shall be maintained in a locked file cabinet. All confidential paper records will be destroyed as soon as operational requirements and records retention schedule permits by shredding the documents using a cross-cutting shredder or secured shredding container service provided by DHAP.

E-mail, memoranda, reports, publications, and presentations that contain data collected through HIV surveillance program activities shall not contain data or information that could directly or indirectly identify any person on whom a record is maintained by CDC. In particular, specific details of case and transmission cluster investigations, or specific geographic identifying information is highly sensitive material. It shall be the responsibility of each authorized user of protected information who is granted access to sensitive surveillance information to safeguard such data. Only the minimum information necessary to conduct their duties will be made available to authorized users of protected information. Conversations via telephone or telecommunications application software with local/state/territorial health department personnel that include discussions of sensitive information shall be conducted discreetly, preferably in private, walled offices.

CDC is in compliance with applicable federal law requiring the protection of federal computer networks from cybersecurity risks like hacking, internet attacks, and other security weaknesses, computer network experts working for, or on behalf, of the government, may intercept and review information sent through government networks for cyber threats if the information sent through the government network triggers a cyber threat indicator.

Enhanced Protection of Electronic Files

All data will be protected in confidential computer files. The following safeguards are implemented to protect HIV surveillance files so that the accuracy and the confidentiality of the data can be maintained:

Computer files containing programs, documents, or confidential data will be stored in computer systems that are protected from accidental alteration and unauthorized access. Computer files will be protected by password systems, access controls which can be audited, virus detection procedures, and routine backup procedures. Data stored at state and local health departments using CDC-supplied software designed to manage and analyze data for surveillance program activities are protected by security requirements that each recipient must certify it complies with before any cooperative agreements can be awarded; the software ensures that the data transmitted to CDC will be in a format that is compatible with the security and confidentiality requirements of the HIV surveillance databases maintained by CDC.

The data centers maintained by ITSO and CDC contractors comply with federal policies, statutes, regulations, and other directives for the collection, maintenance, use, and dissemination of data, including the Department of Health and Human Services Automated Information Systems Security Program, the Computer Security Act of 1987 (Public Law 100-235), the E-Government Act of 2002 (Public Law 107-347), and the Federal Information Security Modernization Act of 2014 (FISMA 2014) (Public Law 113-283). Additionally, the data centers also are in compliance with CDC's OCISO Security Architecture Design and Principles policy. The data centers currently operate under Windows 2012 (or later) with Active Directory. Security features implemented include physical controls, user ID and password protection, mandatory password changes, limited logins, user rights/file attribute restrictions and virus protection.

Use of encrypted CDC computers to support state and local cluster investigations must be implemented in accordance with standard operating procedures. Upon completion of the investigation, transfer of the data to state and local jurisdictions and deletion of all related data from CDC computers and sanitation are to be ensured.

HIV surveillance data will be entered into computer files by staff at state and local health departments and encrypted files will be transmitted electronically via SAMS to DHAP QSDMB staff for uploading into the servers at the Chamblee Data Center. Data that fall within the scope of the Medical Monitoring Project (MMP) or National HIV Behavioral Surveillance (NHBS) will be encrypted and transmitted electronically to CDC via secure transfer mechanisms operated by CDC or its contractor. DHAP employees or contractors, and any ITSO or other CDC employees or contractors who service or maintain the systems or components necessary to support data management of HIV surveillance program files, will be granted access to the files only upon express written approval by a Business Steward (Chief, HICSB or BCSB) or their designee. Designated data stewards in HICSB and BCSB are authorized by the Business Stewards to provide access to data via the Multi-User Share Tool (MUST). Technical and Business Stewards will review the list of authorized users with data stewards on at least an

annual basis to delete persons no longer needing access. The data steward(s) for HICSB are Scott Cope, John Gerstle, Baskaran Govindarajan, Patrick Minor, Anna Satcher Johnson and Patricia Sweeney; for QSDMB, Kimberly Crenshaw; and for BCSB, Jason Craw, Teresa Finlayson and Ying Su.

Encrypted backup copies of data will be made by the data center disk backup system. Backup storage services are provided under a separate CDC-wide contract. Contractor facilities and staff are subject to the same federal policies, statutes, regulations, and other directives, as well as to departmental and CDC security policies, which apply to CDC data center servers and staff. Access to backup disks are restricted to ITSO and contract staff responsible for maintaining the backup procedures.

Dissemination of Data from HIV Surveillance Program Activities

State and local health departments receive confirmation of their transmittals of data to CDC. DHAP HICSB, BCSB, LB, and QSDMB staff are responsible for timely dissemination of aggregate data at the national level, consistent with the data release policies described in Attachment 4. Data will generally be reported only in aggregate or summary form including restrictions on small cell sizes and geographic identifiers; such data could not be used to indirectly identify an individual. Modes of disseminating data include reports, articles in the *MMWR*, peer-reviewed publications, public-use slide sets, and public use data sets. DHAP HICSB, BCSB, LB, and QSDMB staff may provide HIV surveillance or surveillance-related data in response to special requests from Congress, the Department of HHS, other government agencies, and other programs within CDC on a priority basis with the approval of the Director, DHAP or the Business Stewards.

Data may also be analyzed and disseminated by external collaborators and their contracted agents with appropriate authorization and in collaboration with CDC DHAP branches. External collaborators are those with whom DHAP has existing cooperative agreements or contracts involving the collection or analysis of the surveillance data. Requests for such access to the data and subsequent analysis and dissemination must be made according to the procedures outlined in Attachments 4 and 5 of the Confidentiality Security Statement.

In limited circumstances, restricted data sets could be made available to external researchers with approval of the appropriate branch chief, and each relevant project area contributing data to the project. These requests would also be subject to the procedures outlined in Attachments 4 and 5 of the Confidentiality Security Statement.

Records Disposition for the National Archives and Records Administration

Records will be kept according to applicable CDC Records Retention Schedules. All CDC Records Control Schedules are media neutral and therefore are applicable to all records regardless of format. Records having met their records retention schedule should be disposed of appropriately. For example, paper records containing personal identifiable information (PII) should be shredded prior to recycling. Records may be kept longer for programmatic purposes. If 308(d) records for this project are sent to the Federal Records Center for temporary storage (in

which CDC maintains control of the data), the SF 135 form will state: "This accession contains records protected by a confidentiality assurance under Section 308(d) of the PHS Act." The SF 135 form will indicate that the records can be released only to authorized staff and indicate who is authorized to access the records (e.g., Branch Chief, Project Lead, staff from a specific office).

No records will be sent to the National Archives and Records Administration (NARA) for permanent storage unless a public use data set can be created. Otherwise, in accordance with the Assurance of Confidentiality (Public Health Service Act (PHSA) Section 308(d)) the data will be kept by CDC with applicable restrictions enforced.

Confidentiality Security Statement Attachment 1

**ASSURANCE OF CONFIDENTIALITY
FOR THE NATIONAL HUMAN IMMUNODEFICIENCY SYNDROME (HIV)
SURVEILLANCE SYSTEM (NHSS) AND SURVEILLANCE-RELATED DATA
(INCLUDING SURVEILLANCE INFORMATION, CASE INVESTIGATIONS,
TRANSMISSION CLUSTER INVESTIGATIONS, SUPPLEMENTAL SURVEILLANCE
PROJECTS, RESEARCH ACTIVITIES, AND EVALUATIONS)**

DESCRIPTION OF COVERED ACTIVITIES

July 2021

The National HIV Surveillance System (NHSS) provides important information about the epidemiology of HIV infection and is the scientific basis for prevention and control recommendations. Through the HIV Incidence and Case Surveillance Branch (HICSB) and the Behavioral and Clinical Surveillance Branch (BCSB), the Division of HIV/AIDS Prevention (DHAP), CDC provides financial support, technical consultation and analytic tools to state and local health departments for HIV surveillance and surveillance-related activities. These activities include designing, implementing, maintaining, and evaluating HIV surveillance programs at the state and local levels and investigating unusual reports and clusters of HIV transmission, surveillance-related activities that characterize behaviors and clinical outcomes among HIV-infected persons and behaviors among persons at risk for HIV infection in accordance with CDC guidelines and recommendations.

Data collected as part of the National HIV Surveillance System and surveillance-related data projects are used widely to monitor patterns of HIV infection and infection with other infectious disease pathogens (e.g., sexually transmitted infections, hepatitis viruses), detect and respond to HIV transmission clusters, identify individuals in need of engagement of or re-engagement to care, describe behaviors and clinical outcomes of persons with HIV or at risk for HIV, and target HIV prevention and care efforts. HIV surveillance including adult/adolescent and pediatric case reports of persons diagnosed with HIV infection, together with clinical and laboratory data provide information on the spectrum of HIV disease. Molecular HIV surveillance data including laboratory data on drug resistance and HIV-1 subtypes provide population-based data used to determine trends in transmission of drug resistance and the geographic distribution of subtypes in the U.S. HIV nucleotide sequence data are used for identifying recent and ongoing HIV transmission clusters to better focus prevention efforts. Surveillance data are also used to identify unusual or special cases requiring additional follow-up and to assess attributes of the performance of the surveillance system such as reporting completeness, timeliness, accuracy and validity. Supplemental data are also collected through related projects that extend and enhance the HIV case report data. Projects include follow-up investigations of persons with no identified risk (NIR), cases of public health importance (COPHI) such as cases with possible unusual transmission circumstances, and unusual clinical or laboratory test results. In addition, projects

such as mortality studies, projects involving HIV-related opportunistic infections, HIV behavioral surveillance, surveillance evaluation studies, perinatal exposure surveillance, and other supplemental HIV surveillance including HIV clinical outcomes surveillance, evaluation of HIV testing, counseling and referral practices, and related research projects are also conducted. Research projects have IRB-approved protocols as required, and health departments are required to use uniform data collection methods, instruments and software to permit CDC to aggregate the data nationally.

A brief description of current surveillance program activities and research projects follows. In the future, other related data collection activities and projects may be added, and some activities may be discontinued, because all activities respond to the increasing knowledge base of HIV and the evolving need for data to plan for specific prevention and control interventions. Addition or deletion of activities will be done only with the express approval of the Chief, HIV Incidence and Case Surveillance Branch (HICSB), DHAP, NCHHSTP or the Chief, Behavioral and Clinical Surveillance Branch (BCSB), DHAP, NCHHSTP. Once data collection is completed, the protection for participants lasts in perpetuity and therefore remains throughout any ongoing or future data analyses.

Surveillance-related Activities: In addition to routine information provided by adult/adolescent and pediatric case reports, including molecular HIV surveillance data, these activities are done as part of follow-up of cases reported through NHSS including special investigations and evaluations.

Follow-up investigations of persons with no identified risk, unusual transmission, clinical or laboratory findings, and HIV transmission clusters. CDC-developed protocols and criteria are used to conduct epidemiologic and laboratory investigations of cases that may have rare or previously unidentified modes of HIV transmission, unusual clinical manifestations, unusual laboratory test results, or molecular HIV sequence data that indicate recent or rapidly growing HIV transmission clusters. These include, but are not limited to, transfusion and transplant-related cases, cases of HIV transmitted in occupational settings, cases of HIV-2 infection, cases transmitted through female-to-female sexual contact, cases with potentially unusual HIV strain variants, cases with clinical evidence of HIV infection but negative HIV test results, investigation of false positive clusters and discordant results, and breakthrough infections in the presence of pre-exposure prophylaxis. Investigations of recent or rapidly growing HIV transmission clusters identified using molecular HIV sequence data reported as part of HIV surveillance activities are also conducted to focus and assess HIV prevention efforts of state and local health departments.

Evaluation of the performance of the surveillance system. Evaluations include critical review of surveillance methodologies and redirection of resources to those case-finding methods that are the most productive. CDC assists states by providing matching and analysis tools necessary for state health departments in the conduct of routine intrastate

and interstate de-duplication activities to improve accuracy of surveillance data. In addition, surveillance data are analyzed to discover possible under reporting and delays in reporting, monitor data quality, and assess completeness of reporting by comparing surveillance registries with alternate databases that are not routinely used for case finding (e.g., Medicaid databases). Surveillance programs routinely re-abstract demographic, risk, laboratory, and clinical data from a representative sample of records to assess the quality and validity of information collected.

Perinatal HIV Exposure Reporting and Follow-up. HIV surveillance programs collect data on infants born to HIV-infected mothers because these infants are at risk for HIV infection and require early interventions to prevent HIV-related opportunistic infections. Data include maternal HIV test history, prenatal, intrapartum and neonatal antiretroviral therapy, and other variables relevant to the evaluation of recommended actions to prevent perinatal HIV transmission and to facilitate follow-up to identify perinatally-acquired cases of HIV. Perinatal HIV Exposure Reporting (PHER) includes data collected on exposed infants as well as infants who are infected, and their HIV-infected mothers. In PHER, infants known to be HIV-exposed will be monitored after birth up to 18 months of age to determine the HIV infection status of the child and progression to HIV, stage 3 (AIDS). PHER, along with pediatric case surveillance will allow CDC and local health departments to better characterize perinatal HIV infections in the U.S.

Supplemental Surveillance Projects: Using population-based methods of collecting data, these projects characterize persons at increased risk for HIV infection and persons living with HIV infection to assess the impact of HIV within individual health jurisdictions and nationally. Supplemental Surveillance Projects include:

HIV-related Mortality Studies. Supplemental reviews of medical records of deaths among persons reported with HIV or AIDS, routine reviews of death certificates to enhance case ascertainment and update vital status, and periodic matching of HIV surveillance databases to death registries are conducted to ensure that the HIV surveillance system provides data relevant to efforts to prevent premature death from HIV. As highly effective treatments for HIV infection become increasingly more available, efforts to prevent severe morbidity leading to death from HIV require additional efforts to understand factors associated with HIV-related deaths (e.g., late testing, lack of access to care, failing therapies, lack of adherence to treatment regimens).

Project(s) for which data collection has ended and analysis is ongoing:

Monitoring of Perinatal HIV Prevention. Supplemental reviews of medical records of mother/infant pairs to assess counseling and testing, prenatal care, and treatment, longitudinal follow-up of HIV-infected infants to assess infection status, initiation of HIV-related care, and long-term outcomes. This includes but is not limited to enhanced

perinatal surveillance (EPS) activities for which data collection ended in 2011 and analysis is ongoing. Similar data collection will continue with a reduced number of data elements collected on the Perinatal HIV Exposure Report form as part of PHER. We anticipate that over the next several years, data collection for PHER will become more integrated with routine HIV case surveillance. Therefore, we have combined description of these activities under Perinatal HIV Exposure Reporting under Surveillance-related activities.

HIV Clinical Outcomes Surveillance: Using population-based methods of collecting data, these projects characterize behaviors and clinical outcomes among HIV-infected persons within individual health jurisdictions and nationally. Clinical outcomes surveillance projects include:

Medical Monitoring Project (MMP). MMP is a population-based interview and medical record abstraction project designed to produce nationally representative data on people living with diagnosed HIV in the United States. Project areas collect behavioral and clinical outcomes data to assess the met and unmet needs for treatment and other services and conduct evaluation and cognitive testing of survey domains. Data are weighted to represent the population of persons living with diagnosed HIV and are both nationally and locally representative. Data are used to inform prevention and care planning groups, providers of HIV care, people living with HIV and others to advocate for reducing the gaps in existing resources.

Project(s) for which data collection has ended and analysis is ongoing:

Case-Surveillance-Based Sampling (CSBS) Project. CSBS was a pilot of a nationally representative surveillance system for all HIV-diagnosed persons in the United States both in and out of HIV care conducted in 5 project jurisdictions. Data collection included linkage to case surveillance data and patient interview, and medical record abstraction regarding sensitive topics such as sexual behaviors, drug and alcohol use, and clinical outcomes. The CSBS Project was intended to evaluate a method of sampling participants for MMP to help guide the future direction of MMP and efforts to monitor progress toward the National HIV/AIDS Strategy objectives related to linkage to and retention in care. Data collection for this project ended in May 2015 and data analysis is ongoing.

Adult/Adolescent Spectrum of Disease (ASD) Project. The ASD project was conducted from 1990 until 2004 to describe the spectrum of HIV disease and subsequent mortality among persons with different levels of immunosuppression and to monitor the use and effectiveness of recommended prophylactic interventions and antiretroviral and antimicrobial therapies. Results from the study have been useful in determining how best to expand the AIDS surveillance case definition, describing the rate of development of various opportunistic illnesses in HIV-infected persons, evaluating the effectiveness of prophylaxis for *Pneumocystis carinii* pneumonia and other interventions to delay or prevent the onset of HIV-related opportunistic illnesses, and guiding Public Health

Service recommendations for the treatment of HIV-infected patients. Data collection for this project ended in June 2004 and data analysis is ongoing.

Survey of HIV Disease and Care. Changes in prophylactic and therapeutic interventions made it essential for CDC to provide representative supplemental clinical surveillance information so that health departments could use the information in concert with their core HIV/AIDS surveillance data to better describe changing trends in the epidemic and allocate resources accordingly. The project provided several states/territories with the ability to accurately estimate the met and unmet needs for treatment and other medical services in their communities. This project served as the pilot for the current Medical Monitoring Project. Data collection ended in January 2004 and data analysis is ongoing.

Supplement to HIV/AIDS Surveillance (SHAS) Project. SHAS was a facility-based (and in some cases a population-based) interview project conducted beginning in 1990 in 12 locations to collect additional data on persons reported through HIV/AIDS surveillance. During 2000, 3 additional areas were added to the project. Data from this project have been important for planning and evaluating prevention and care programs and in collecting behavioral surveillance data. Participating surveillance programs use a standardized questionnaire designed in collaboration with CDC to interview persons reported with HIV and AIDS through routine case surveillance. Data collection for this project ended in June 2004 and data analysis is ongoing.

Never in Care (NIC) Project. NIC identified, located and interviewed persons with diagnosed HIV infection who did not receive care within 3 months of their diagnosis. The interviews collected information on HIV testing history, health seeking behaviors, and access and barriers to health care. Blood samples were obtained and tested for CD4, HIV viral load and antiretroviral resistance to determine participants' care needs. Information collected has been used to understand reasons HIV-infected persons delay initiation of care and to assist in the development of appropriate interventions to get persons into care in a timely manner. Data collection ended in August 2010 and data analysis is ongoing.

HIV Behavioral Surveillance: HIV behavioral surveillance data may be collected from the general population, persons at high risk for infection, and those who are infected. Examples of groups at high risk for infection include, but are not limited to men who have sex with men, persons who inject drugs, and heterosexuals of low income living in jurisdictions with high prevalence of HIV. Behavioral surveillance data are used to monitor prevalence and trends in sexual behaviors, drug use, HIV testing, and use of HIV prevention and care services. Behavioral Surveillance Projects include:

National HIV Behavioral Surveillance System (NHBS). NHBS is CDC's comprehensive system for conducting behavioral surveillance among persons at highest risk for HIV infection in the U.S. Interviews, HIV testing, and other testing (e.g., hepatitis or STD testing) are conducted among populations at high risk for HIV including, but not limited

to: men who have sex with men, persons who inject drugs, and heterosexuals at increased risk for HIV infection living in Metropolitan Statistical Areas (MSAs) with the highest HIV prevalence. Data on additional populations (e.g., young men who have sex with men, transgender persons) are collected in participating behavioral surveillance areas as funding permits. NHBS focuses on monitoring prevalence and trends in HIV risk behaviors, HIV testing, exposure to and use of prevention services, and other HIV-associated outcomes. NHBS data are electronically collected via portable computers and are submitted to and managed by a CDC-funded Data Coordinating Center (DCC). NHBS data on a national level are reported in annual surveillance summaries and other reports and are used to monitor national HIV prevention strategies. On a local level, NHBS data are used to prioritize and evaluate HIV-related prevention activities.

Injection Drug Use Surveillance Project (IDU-SP). IDU-SP is a surveillance system developed to strengthen the capacity of Syringe Services Programs (SSPs) to contribute to national HIV behavioral surveillance and to monitor local drug use. Outcomes of the project include: 1) improved health outcomes for people who inject drugs (PWID); 2) reduced incidence of infectious disease resulting from injection drug use; and 3) reduced injection drug use and other high-risk substance use. The system includes a bio-behavioral survey of PWID and their peers who use drugs to monitor risk practices, access and use of prevention services, prevalence of HIV and HCV infections, and prevalence of other health outcomes related to injection drug use. The project is conducted as a Cooperative Agreement with the University of Washington. SSPs are recruited from the North American Syringe Exchange Network (NASEN) list of SSPs. PWID and their peers will be recruited directly from the SSPs using a respondent-driven sampling method.

Types of data collected via IDU-SP which is in-step with the current purpose of the AoC includes sensitive information from people who use illicit substances, specifically people who inject drugs. People who inject drugs are at high risk for a host of negative sequelae including infectious diseases such as viral hepatitis and HIV, endocarditis and other bacterial infections, wound abscesses, cellulitis, and overdose. The mode of transmission necessitates the collection of sensitive data regarding drug use and sexual practices. Other sensitive data are collected because the specific behaviors, experiences or conditions have been shown to be associated with negative consequences of injection drug use or non-injection drug use of injectable drugs (e.g., smoking or snorting heroin). The IDU-SP also includes the collection of medical information related to infectious disease status, STD diagnosis and testing, hepatitis diagnosis and vaccinations; overdose; history of incarceration; and violence. Injecting drugs and associated behaviors are highly stigmatized and, in some instances, criminal activities. Protecting the confidentiality and identity of participants is critical to the integrity of this surveillance project.

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Directly identifying information will not be shared with CDC. Although the IDU-SP project does not link direct identifiers to survey data, some information might be considered indirectly identifying if it were to be combined with other information. We have implemented all the steps we could identify to reduce the likelihood of unintentionally identifying an individual. However, there may be some unanticipated remaining risk since data is reported at the individual level and includes sensitive information on drug use, risk behaviors, and HIV test results. Data collected, both locally and at CDC, are stored and accessed by a survey identification number. The main data collection components include the eligibility screener, behavioral survey, and specimen collection for HIV and HCV testing, which will all be conducted by trained project staff. The approved Project Determination Form indicates that the project is deemed to be public health surveillance and thus, it does not require human subjects' review by the CDC IRB.

The data will be entered locally into a REDCap database which will be used to transmit surveillance data without direct identifiers to CDC using the SFTP. Databases submitted through the SFTP will be encrypted before being sent to CDC and password protected with limited number of staff within CDC and at the collaborating site having access. Biweekly meetings between the collaborator and CDC staff will maintain strict data protection for the data collected, transmitted, and stored with restricted access in accordance with procedures outlined in the Assurance of Confidentiality Security Statement.

Project(s) for which data collection has ended and analysis is ongoing:

Web-based HIV Behavioral Surveillance (WHBS). WHBS involved internet-based interviews of men who have sex with men. WHBS data were collected electronically via a secure website managed by a CDC-funded contract. The goals for WHBS were to assess prevalence of and trends in risk behaviors for HIV infection, HIV testing behaviors, and exposure to, use of, and impact of HIV prevention services among internet using MSM in the 50 U.S. states and affiliated U.S. territories. Data from WHBS are used for tracking national trends in risk behaviors, HIV testing, and access to and utilization of HIV prevention services. Data collection for this project ended in August 2012 and data analysis is ongoing.

Behavioral Assessments and Rapid Testing (BART). The purpose of the Behavioral Assessment and Rapid Testing project was to implement event-based rapid testing and behavioral assessments as a strategy for reducing HIV transmission and increasing HIV prevention among 1) African Americans at large social events; 2) men who have sex with men (MSM) attending gay pride events in small- and medium-sized cities; 3) minority MSM attending gay pride events; and 4) young African Americans attending black spring break parties and festivals. Objectives included increasing awareness of HIV status among at-risk persons, and characterizing the prevalence of unrecognized HIV infection.

Behavioral and testing data have been used to inform HIV prevention services and policy at the local, state, and national levels. Data collection for this project ended in December, 2010 and data analysis is on-going.

HIV Testing Survey (HITS). HITS included interviews of persons at risk for HIV including STD clinic clients, out-of-treatment drug users, gay men in social venues, and other vulnerable at-risk populations. This study evaluated how well HIV case surveillance data represented the HIV-infected population and sought to identify the reasons that persons with HIV or at-risk for HIV infection may seek or defer HIV testing and HIV-related health care to improve the targeting of HIV prevention and testing messages, and the role HIV testing and reporting policies may play in those decisions. Data collection for this project ended in June 2003 and data analysis is ongoing.

Evaluation of HIV Testing, Counseling and Referral Practices: Evaluations of HIV testing, counseling, and referral practices are an integral part of HIV surveillance in the United States. These projects involve evaluating newly developed HIV testing methodologies and counseling practices. They also assist in providing data to help monitor the implementation of these new practices in different populations and settings. The evaluation projects take two main forms:

Evaluation of New HIV Testing Methods. These projects are used to evaluate the performance and application of diagnostic technologies to improve HIV testing practices and incidence estimation in the United States and abroad. These projects include the evaluation of new HIV tests or combinations of tests, application of existing tests in different settings, methods to detect acute HIV infection, methods for confirmation of HIV infection, and the establishment of seroconversion panels for future HIV test evaluation.

Evaluation of the Implementation of New HIV Testing, Counseling and Referral Practices. These projects involve the demonstration and evaluation of new strategies for HIV testing, counseling, and referral practices. Data collected through these projects provide information on how new practices are implemented in different clinical and non-clinical settings. These evaluation projects will be used to develop effective models to extend new practices broadly throughout the United States.

Other HIV Surveillance-related Projects, Research Investigations, and Activities: Over time, our understanding of the natural history and epidemiology of HIV has increased. Effective prevention and treatment interventions have been demonstrated to reduce infection, disease and death from HIV. HIV surveillance data have guided the development of guidelines for disease control and prevention and are the basis for allocating resources for programs and services to prevent and treat HIV, and new testing, diagnostic and treatment methods continue to develop and change rapidly. The rapidly evolving nature of information about HIV requires the ability to add or delete variables from the case report forms and data collection instruments for

supplemental surveillance projects, investigations, and research activities, and implement additional surveillance-related activities as new problems emerge, new epidemiologic questions arise, or new data are required to ensure that CDC and state and local health departments can mount an effective public health response. The addition or deletion of data collection activities is accomplished only under the express approval of the branch chief responsible for the activity, specifically either the Chief, HIV Incidence and Case Surveillance Branch (HICSB) or the Chief, Behavioral and Clinical Surveillance Branch (BCSB), Division of HIV/AIDS Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention.

Confidentiality Security Statement Attachment 2

FTE NONDISCLOSURE AGREEMENT

**(308(d) Assurance of Confidentiality for CDC Employees involved in
HIV surveillance and surveillance-related activities)**

October 2019

The success of CDC's operations depends upon the voluntary cooperation of states and U.S.-dependent areas, of establishments, and of individuals who provide the information required by CDC programs under an assurance that such information will be kept confidential and be used only for epidemiological or statistical purposes.

When confidentiality is authorized, CDC operates under the restrictions of Section 308(d) of the Public Health Service Act which provides in summary that no information obtained in the course of its activities may be used for any purpose other than the purpose for which it was supplied, and that such information may not be published or released in a manner in which the establishment or person supplying the information or described in it is identifiable unless such establishment or person has consented.

"I am aware that unauthorized disclosure of confidential information is punishable under Title 18, Section 1905 of the U.S. Code, which reads:

'Whoever, being an officer or employee of the United States or of any department or agency thereof, publishes, divulges, discloses, or makes known in any manner or to any extent not authorized by law any information coming to him in the course of his employment or official duties or by reason of any examination or investigation made by, or return, report or record made to or filed with, such department or agency or officer or employee thereof, which information concerns or relates to the trade secrets, processes, operations, style of work, or apparatus, or to the identity, confidential statistical data, amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation, or association; or permits any income return or copy thereof or any book containing any abstract or particulars thereof to be seen or examined by any person except as provided by law; shall be fined not more than \$1,000, or imprisoned not more than one year, or both; and shall be removed from office or employment.'

"I understand that unauthorized disclosure of confidential information is also punishable under the Privacy Act of 1974, Subsection 552a (i) (1), which reads:

'Any officer or employee of any agency, who by virtue of his employment or official position, has possession of, or access to, agency records which contain individually identifiable information the disclosure of which is prohibited by this section or by rules or regulations established thereunder, and who knowing that disclosure of the specific material is so prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than \$5,000.'

“My signature below indicates that I have read, understood, and agreed to comply with the above statements.”

Typed/Printed Name

Signature

Date

National Center/Institute/Office/Branch

Rev. October 2019, based on CDC 0.979 (E) 10/2012

Confidentiality Security Statement Attachment 3

Contractor Nondisclosure Agreement

Safeguards for Individuals and Establishments

Against Invasions of Privacy

October 2019

In accordance with Subsection (m) of the Privacy Act of 1974 (5 U.S.C. 552a) and Section 308(d) of the Public Health Service Act (42 U.S.C. 242m), the contractor is required to comply with the applicable provisions of the Privacy Act and to undertake other safeguards for individuals and establishments against invasions of privacy.

To provide these safeguards in performance of the contract, the contractor shall:

1. Be bound by the following assurance:

Assurance of Confidentiality

In accordance with Section 308(d) of the Public Health Service Act (42 U.S.C. 242m), the contractor assures all respondents that the confidentiality of their responses to this information request will be maintained by the contractor and CDC and that no information obtained in the course of this activity will be disclosed in a manner in which the individual or establishment is identifiable, unless the individual or establishment has consented to such disclosure, to anyone other than authorized staff of CDC.

2. Maintain the following safeguards to assure that confidentiality is protected by contractor's employees and to provide for the physical security of the records:

- a. After having read the above assurance of confidentiality, each employee of the contractor participating in this project is to sign the following pledge of confidentiality:

I have carefully read and understand the assurance which pertains to the confidential nature of all records to be handled in regard to this HIV surveillance or surveillance-related activity. As an employee of the contractor I understand that I am prohibited by law from disclosing any such confidential information which has been obtained under the terms of this contract to anyone other than authorized staff of CDC. I understand that any willful and knowing disclosure in violation of the Privacy Act of 1974 is a misdemeanor and would subject the violator to a fine of up to \$5,000.

- b. To preclude observation of confidential information by persons not employed on the project, the contractor shall maintain all confidential records that identify individuals or establishments or from which individuals or establishments could be identified under lock and key.

Specifically, at each site where these items are processed or maintained, all confidential records that will permit identification of individuals or establishments are to be kept in locked containers when not in use by the contractor's employees. The keys or means of access to these containers are to be held by a limited number of the contractor's staff at each site. When confidential records are being used in a room, admittance to the room is to be restricted to employees pledged to confidentiality and employed on this project. If at any time the contractor's employees are absent from the room, it is to be locked.

- c. The contractor and his professional staff will take steps to insure that the intent of the pledge of confidentiality is enforced at all times through appropriate qualifications standards for all personnel working on this project and through adequate training and periodic follow up procedures.
3. Print on the data collection form or questionnaire in a clearly visible location and in clearly visible letters the following notice of the confidential treatment to be accorded the information on the questionnaire by any individual who may see it:

Confidential Information

Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence by the contractor and CDC, will be used only for purposes stated in this project, and will not be disclosed or released to anyone other than authorized staff of CDC without the consent of the individual or the establishment in accordance with Section 308(d) of the Public Health Service Act (42 U.S.C. 242m).

4. On a letter or other form that can be retained by the individual or the establishment, or on the questionnaire form itself if it is a self-administered questionnaire, inform in clear and simple terms each individual or establishment asked to supply information:
- a. That the collection of the information by CDC and its contractor is authorized by Sections 304 and 306 of the Public Health Service Act (42 U.S.C.242b and 242k);
 - b. Of the purpose or purposes for which the information is intended to be used, clearly stating that the records will be used solely for epidemiological or statistical research and reporting purposes;

- c. Of the routine uses that may be made of the information, including all disclosures specified in the "Federal Register" for this system of records which may be applicable to this project;
- d. That participation is voluntary and there are no penalties for declining to participate in whole or in part; and
- e. That no information collected under the authority of Sections 304 and 306 of the Public Health Service Act (42 U.S.C. 242b and 242k) may be used for any purpose other than the purpose for which it was supplied, and such information may not be published or released in other form if the particular individual or establishment supplying the information or described in it is identifiable to anyone other than authorized staff of CDC, unless the individual or establishment has consented to such release.

(The voluntary disclosure by the respondent of requested information after being informed of preceding paragraphs a through d is an acknowledgment of the uses and disclosures contained in paragraph c.)

- 5. Release no information from the data obtained or used under this contract to any person except authorized staff of CDC.
- 6. By a specified date, which may be no later than the date of completion of the contract, return all project data to CDC or destroy all such data, as specified by the contract.

(Typed/printed Name)

(Signature)

(Date)

Confidentiality Security Statement Attachment 4

NON-EMPLOYEE 308(d) PLEDGE OF CONFIDENTIALITY

(308(d) Assurance of Confidentiality for Non-CDC employees)

October 2019

I, as a non-CDC Employee (e.g., Guest Researcher, Visiting Fellow, Student, Trainee, employee of a federal agency other than CDC, etc.) may be given access to personally identifiable data, preliminary data from other projects, proprietary data (for example, information from a manufacturer that is used to assess a cluster of adverse events), or pre-decisional information that is covered by Section 308(d) of the Public Health Service Act (42 U.S.C. 242m). As a condition of this access, I am required to comply with the following safeguards for individuals and establishments against invasions of privacy.

1. I agree to be bound by the following assurance:

In accordance with Section 308(d) of the Public Health Service Act (42 U.S.C. 242m), all respondents are assured that their responses will be kept confidential. No information obtained in the course of this activity will be disclosed in a manner in which the individual or establishment supplying the information or described in it is identifiable, unless the individual or establishment has consented to such disclosure, to anyone other than authorized staff of CDC or staff covered under this 308(d) Assurance. Additionally, data unrelated to specific patients that includes preliminary data from other projects, proprietary data, and pre-decisional data are to be kept confidential, unless CDC provides written authorization to release this information (i.e., CDC provides clearance to publish a scientific manuscript).

2. I agree to maintain the following safeguards to assure that confidentiality is protected and to provide for the physical security of the records:

To preclude observation of confidential information by persons not authorized to have access to the information on the project, I shall maintain all records that identify individuals or establishments or from which individuals or establishments could be identified in locked containers or protected computer files when not under immediate supervision by me or another authorized member of the project. The keys or means of access to these containers or files are not to be given to anyone other than CDC-authorized staff. I further agree to abide by any additional requirements imposed by CDC for safeguarding the identity of individuals and establishments.

My signature below indicates that I have carefully read and understand this agreement and the assurance, which pertains to the confidential nature of the study records. As a(n) _____ (e.g., visiting scientist, guest researcher, fellow, trainee, employee of a federal agency other than CDC), I understand that I am prohibited from disclosing any such confidential information that has been obtained under this project to anyone other than authorized staff of CDC or persons covered under this 308(d) Assurance. I understand that any disclosure in violation of this Confidentiality Pledge will lead to termination of my employment, fellowship, training experience, or scientific collaboration with the HIV Incidence and Case Surveillance Branch (HICSB) and the Behavioral and Clinical Surveillance Branch (BCSB), Division of HIV/AIDS Prevention (DHAP), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) as well as other penalties.

(Typed/Printed Name)

(Signature)

(Date)

Confidentiality Security Statement Attachment 5

**POLICY FOR RELEASE OF CENTERS FOR DISEASE CONTROL AND
PREVENTION (CDC) HIV SURVEILLANCE AND SURVEILLANCE-RELATED DATA**

October 2019

Description of the system

The National HIV Surveillance System (NHSS) is comprised of HIV case reports submitted on a voluntary basis to CDC by the 50 states, the District of Columbia, Puerto Rico and U.S. dependent areas (e.g., American Samoa, Guam, Northern Mariana Islands, the Republic of Palau, and the U.S. Virgin Islands).

National HIV Behavioral Surveillance (NHBS) collects behavioral and biological data on samples of persons at increased risk for HIV (men who have sex with men, persons who inject drugs, and heterosexual at increased risk) in U.S. cities with high HIV burden in rotating cycles. Participants are sampled using methods designed to reach hidden or stigmatized populations.

The Medical Monitoring Project (MMP) collects behavioral and clinical data on a nationally representative sample of persons living with a diagnosis of HIV infection through interviews and medical record abstraction.

Encrypted case reports and other surveillance-related data are received electronically using standardized reporting forms and software. The data from state and local health departments are decrypted and the CDC databases are updated on a regular basis to include all cases received and processed through the last day of the previous cycle. Personally identifying information on each case is deleted prior to transfer to CDC and cases are identified at the national level only by soundex code based on patient's surname, date of birth, and a state-assigned patient identification number.

The HIV Incidence and Case Surveillance Branch (HICSB), the Behavioral and Clinical Surveillance Branch (BCSB), the Laboratory Branch (LB), and the Quantitative Sciences and Data Management Branch (QSDMB) of the Division of HIV/AIDS Prevention (DHAP) maintain databases on individuals at risk for, or have received a diagnosis of, HIV infection. These databases include information from case reports, case investigations, transmission cluster investigations, related surveillance databases, surveys, and data from medical records, laboratories or public health databases.

All surveillance and surveillance-related data collected and maintained by the DHAP HICSB, BCSB, LB, and QSDMB must be managed, presented, published and released in accordance with strict adherence to the standards for confidentiality and security consistent with the principles and guidelines for HIV case report data. These principles and guidelines must be strictly followed as geographic and small-cell data may be indirectly identifying when combined with detailed information contained in case reports, questionnaires, or from laboratory or medical records.

Restrictions on release of data

HIV surveillance data and data from surveillance-related projects, evaluation studies, and case investigations are collected under Sections 304 and 306 of the Public Health Service Act (42 U.S.C. 242b and 242k) and are protected at the national level by an Assurance of Confidentiality (Section 308(d) of the Public Health Service Act, 42 U.S.C. 242 m(d)), which prohibits disclosure of any information that could be used to directly or indirectly identify individuals whose records are contained in the NHSS and surveillance-related databases. This prohibition has led to the formulation of guidelines for data release. The guidelines reflected in this policy and related standard operating procedures represent a balance between the potential for inadvertent disclosure and the need for CDC/DHAP to be responsive to information requests having legitimate public health application. The data re-release policies were developed jointly by CDC and the Council of State and Territorial Epidemiologists (CSTE). Each state or local HIV Surveillance Coordinator and state epidemiologist signed a data re-release agreement with CDC and selected the level of geographic specificity (e.g., state, county, size of metropolitan statistical area (MSA) or other geographic area) at which CDC may report data on HIV cases residing in that state. These principles and restrictions should also be applied to other surveillance or surveillance-related data and information collected and maintained by the DHAP HICSB, BCSB, or LB Specific surveillance activities may have additional data-release requirements that are specified in their respective protocols. In the absence of project specific data release policies or agreements with project areas, these restrictions apply.

As a general rule, requests from the public, the media, and other government agencies for state/local data will be referred to the local area for reply. There are two reasons for this: 1) local health departments can release their HIV surveillance data in accordance with locally established policies and procedures, and 2) due to the delay between the date of diagnosis and report to CDC, the local health department data are more current than those contained in the NHSS database. However, CDC may release data to the public, for presentation in oral and written publications, and otherwise make data available for epidemiologic and public health purposes within the guidelines specified and described in the document “Agreement to Abide by Restrictions on Release of Surveillance Data...” When publishing or presenting state/local data, CDC staff should notify the local areas in advance whenever possible. Outside the bounds of these guidelines, CDC will not release, in any format, state, county, MSA, or U.S. dependent area-specific data without the consent of the appropriate state or local health departments.

Access to the database

DHAP HICSB and BCSB are charged with the responsibility of maintaining the security and confidentiality as well as the scientific integrity of CDC HIV surveillance and surveillance-related databases. Access to data beyond that available for public use is limited, through controlled-access groups, to members of the DHAP HICSB and BCSB, and selected members of the DHAP QSDMB, LB, and their contractors and other authorized agents. In limited circumstances, CDC staff outside these groups or external project collaborators may be granted access on an as-needed basis, at the discretion of the appropriate branch chief. External collaborators are those with whom DHAP has existing cooperative agreements or contracts

involving the collection or analysis of these surveillance data. To conduct analyses, staff must submit an analysis proposal which must be approved through the applicable branch management. Templates for analysis and manuscript proposals are available from BCSB and HICSB for these requests. To obtain access and conduct analyses, others outside the CDC branches mentioned above must do the following:

1. Pose a specific research question.
2. Estimate the time required for their analysis/access.
3. Agree in writing to abide by DHAP policies and procedures on data release and sign the “Nondisclosure Agreement”, the “Request for Access...”, and the “Agreement to Abide by Restrictions...” documents or other documents as required for specific projects that contain the policies and guidelines for use of HIV surveillance and related data. Completion of annual Assurance training is required if access to surveillance datasets is necessary, consistent with branch policies and procedures.
4. Provide an outline on their proposed methodology including names of variables to be used in the analysis.
5. Collaborate with staff of HICSB or BCSB in analysis, presentation, and publication of the results of their analysis. In some cases, access to national data by collaborators may be designed as part of the project protocol, and should be agreed to by all collaborators on the project.
6. Submit all reports, publications, and presentations to DHAP clearance and cross-clearance channels.

Alternatives to access of NHSS or other surveillance-related data

To reduce the burden on HICSB, BCSB, LB, and QSDMB staff, other CDC staff persons requesting HIV surveillance data are encouraged to use publicly available reports, slide sets, and the NCHHSTP AtlasPlus. CDC staff that use HIV surveillance data for policy development, resource allocation, research prioritization and other public health purposes are advised to consult with HICSB or BCSB staff to ensure appropriate interpretation of the data. CDC staff that present or publish HIV surveillance data should adhere to CDC policies for clearance and cross-clearance to ensure that data are presented and interpreted consistently and accurately.

1. The HIV Surveillance Report is published annually. The report is a collection of tables describing the characteristics of persons with diagnosed HIV infection and infections with stage 3 (AIDS) classifications in the United States and dependent areas. The report includes data on age, sex, race/ethnicity, and transmission category, and by state, region of residence, metropolitan statistical area (if greater than 500,000 population), and dependent area. This report is updated annually to include data on diagnoses that have occurred through December 31 (of a given year) and reported to CDC through June 30 (of the following year).

2. DHAP produces numerous supplemental reports, special reports, slides sets, fact sheets, MMWR articles, and peer-reviewed publications. These products conform to this data-release policy and criteria outlined in the re-release agreements. DHAP surveillance publications can be accessed through the CDC website at www.cdc.gov/HIV or by contacting HICSB at (404)-639-2050 or BCSB at (404) 639-2090.
3. The [NCHHSTP AtlasPlus](https://www.cdc.gov/nchhstp/atlas/index.htm) provides an interactive platform for accessing HIV surveillance data, allowing users to observe trends and patterns by creating detailed reports, maps, and other graphics. Currently, AtlasPlus provides interactive maps, graphs, tables, and figures showing geographic patterns and time trends of HIV infection, stage 3 (AIDS) classifications, viral hepatitis, tuberculosis, chlamydia, gonorrhea, and primary and secondary syphilis surveillance data. Data are currently available at the national level as well as state/dependent-area level. The NCHHSTP AtlasPlus can be accessed at <https://www.cdc.gov/nchhstp/atlas/index.htm>.
4. State-specific data can also be accessed through state/local health department websites. A listing of websites for state/local health departments can be found on the last page of DHAP's annual HIV Surveillance Report. DHAP surveillance publications and the NCHHSTP AtlasPlus can be accessed through the CDC website at <http://www.cdc.gov/hiv/topics/surveillance/index.htm>
5. The DHAP HICSB and BCSB, wishing to be responsive to specific data requests having important public health application, will consider requests for data and complete analyses on data that cannot be retrieved using production materials. For requests requiring HICSB, BCSB, or in some cases QSDMB or LB response, submission in written format must be submitted to assist in ensuring an appropriate response. Due to limited resources, processing requests for data is not guaranteed and data will be supplied only if their release does not conflict with current disclosure prohibitions. Initial requests may be taken verbally but requesters will be encouraged to submit their queries in writing to ensure an appropriate response.

Consideration will be given to verbal requests from:

- The Executive Branch; Members of Congress and their staffs; senior staff from other Federal agencies (HUD, HRSA, SAMHSA); the states; associations serving the states (e.g., ASTHO, CSTE, NASTAD); other public institutions of CDC interest (e.g., The Red Cross and National Hemophilia Foundation); and selected CDC staff serving these constituencies.
- The NCHHSTP, Program Planning & Policy Coordination Office or DHAP Office of Policy, Planning and Communications.

Other parties and individuals should submit requests in written format to the chief of either HICSB or BCSB, or one of their designees. Due to limited resources, processing of data requested cannot be guaranteed. Responses and request fulfillment are at the discretion of the branch chief.

Confidentiality Security Statement Attachment 6

**AGREEMENT TO ABIDE BY RESTRICTIONS ON RELEASE OF HIV
SURVEILLANCE AND SURVEILLANCE-RELATED DATA COLLECTED AND
MAINTAINED BY THE DIVISION OF HIV/AIDS PREVENTION (DHAP)**

October 2019

I, _____, understand that data collected by the Centers for Disease Control and Prevention (CDC) through the National HIV Surveillance System (NHSS) and related surveillance activities, projects, and case investigations under Sections 304 and 306 of the Public Health Service Act (42 U.S.C. 242b and 242k) are protected at the national level by an Assurance of Confidentiality (Section 308(d) of the Public Health Service Act, 42 U.S.C. 242m(d)), which prohibits disclosure of any information that could be used to directly or indirectly identify any individual on whom a record is maintained by CDC. This prohibition has led to the formulation of the following guidelines for release of HIV surveillance and surveillance-related data collected on such persons to which, in accepting access to data not considered public-use, I agree to adhere. These guidelines represent a balance between the potential for inadvertent disclosure and the need for CDC/DHAP to be responsive to information requests having legitimate public health application, and reflect input from DHAP subject matter experts, statisticians, and approval of state and local surveillance programs. In particular, variables that identify geographic units or facilities have the potential to indirectly identify individuals.

Therefore, I will not release, either inside or outside CDC, state/territorial, MSA, city, county, or other geographic area-specific data in any format (e.g., publications, presentations, slides, interviews) without the consent of the appropriate state or local agency, except as consistent with the format described in this document and related HICSB and BCSB standard operating procedures. Specifically, in accordance with the terms of written data re-release agreements between CDC, the Council of State and Territorial Epidemiologists (CSTE), and individual state/territorial health departments AND in accordance with the principles of the Assurance of Confidentiality for HIV surveillance and surveillance-related data authorized under Section 308(d) of the U.S. Public Health Service Act:

Levels of data release:

National and regional level — I am permitted to release national and regional aggregate data without cell size or denominator restrictions. Data will include (but not be limited to) multiple cross tabulations by geographic level, sex at birth (or current gender if available, for national/regional level analyses only), race/ethnicity (based on Office of Management and Budget (OMB) categories), age group, transmission category (or exposure category), and year. These include the variables outlined below and may include other variables reported to the National HIV Surveillance System, Medical Monitoring Project (MMP) or National HIV Behavioral Surveillance.

State level (including the District of Columbia and Puerto Rico) — For any state, the District of Columbia, and Puerto Rico. I am permitted to release one-way frequencies, two-way, three-way, and four-way stratifications of variables of interest (including sex at birth, age group, race/ethnicity and transmission/exposure category) by location (i.e., states) and year with the denominator rule suppressing data for stratum-specific populations of size <100 according to the level of release specified in the state's data re-release agreement. I understand that the stratifications released may vary by jurisdiction and will review and release data according to each jurisdiction's agreed level of release. A summary listing of specified release levels for each state is available from the Data Analysis and Dissemination Team, HICSB.

- No numerator suppression rule will be applied.
- For strata where a population size is not available in the U.S. Census (e.g., transmission/exposure category) the size of the underlying population that is *most similar to the group* will be checked before data are released. For example, for black men who have sex with men, the underlying population of black men will be checked for that geographic area.
- If the totals could inadvertently disclose a case through back-calculation by subtraction, secondary or complementary suppression will be done by either 1) combining two or more categories of data (e.g., aggregation of values within the stratification parameter) or 2) excluding all data in a subcategory (e.g., blocking disaggregation below a pre-selected value for the stratification parameter) across multiple states.
- Any requests for data beyond this data-release agreement will require permission by the applicable health department.

Geographic Areas with $\geq 500,000$ population — For areas with $\geq 500,000$ population, **including MSAs, counties cities and other geographic areas**, I am permitted to release one-way frequencies, two-way, three-way, and four-way stratifications of variables of interest (including sex at birth, age group, race/ethnicity and transmission/exposure category) by location (e.g., MSAs, counties cities and other geographic areas) and year with the denominator rule suppressing data for stratum-specific populations of size <100 according to the level of release specified in the state's data re-release agreement. I understand that the stratifications released may vary by jurisdiction and will review and release data according to each jurisdiction's agreed level of release. A summary listing of specified release levels for each state is available from the Data Analysis and Dissemination Team, HICSB.

- No numerator suppression rule will be applied.

- For strata where a population size is not available in the U.S. Census (e.g., transmission category) the underlying population that is *most similar to the group* will be checked before release. For example, for black men who have sex with men, the underlying population of black men will be checked for that geographic area.
- If the totals could inadvertently disclose a case through back-calculation by subtraction, secondary or complimentary suppression will be done by either 1) combining two or more categories of data (e.g., aggregation of values within the stratification parameter) or 2) excluding all data in a subcategory (e.g., blocking disaggregation below a pre-selected value for the stratification parameter) across multiple areas.
- Any requests for data beyond this data release agreement will require permission by the applicable health department.

Geographic areas with 50,000 – 499,999 population — I will review the data re-release agreements and most current standard operating procedures for applicable areas and restrictions in collaboration with the HICSB or BCSB Chief or the Data Analysis and Dissemination Team Leader, HICSB before releasing any data for geographic areas with 50,000 – 499,999 population. I understand that the stratifications released may vary by jurisdiction and will review and release data according to each jurisdiction's agreed level of release. A summary listing of specified release levels for each state is available from the Data Analysis and Dissemination Team, HICSB.

- A denominator rule of <100 will be applied for all frequencies and stratifications in areas with 50,000 – 499,000 population (i.e., when the stratum-specific population is <100 for a subgroup, count data will not be presented). In addition, data will be suppressed when numerators are 1-4 (i.e., cells with 1 – 4 will not be presented).
- For strata where a population size is not available in the U.S. Census (e.g., transmission category) the underlying population that is *most similar to the group* will be checked. For example, for black men who have sex with men, the underlying population of black men will be checked for that geographic area.
- Any requests for data beyond this data release agreement will require permission by the applicable health department.

Counties <50,000 population — Data will not be released for any area/location with <50,000 population other than counties. I will review the data re-release agreements and most current standard operating procedures for applicable areas and restrictions in collaboration with the HICSB or BCSB Chief or the Data Analysis and Dissemination Team Leader, HICSB before releasing any data for counties with <50,000 population. I understand that the stratifications

released may vary by jurisdiction and will review and release data according to each jurisdiction's agreed level of release. A summary listing of specified release levels for each state is available from the Data Analysis and Dissemination Team, HICSB.

- A denominator rule of <100 will be applied for all frequencies and stratifications in counties <50,000 (i.e., when the stratum-specific population size is <100 for a subgroup, count data will not be presented). In addition, data will be suppressed when numerators are 1-4 (i.e., cells with 1-4 will not be presented).
- For strata where a population size is not available in the U.S. Census (e.g., transmission category) the underlying population that is most similar to the group will be checked. For example, for black men who have sex with men, the underlying population of black men will be checked for that geographic area.
- Any requests for data beyond this data-release agreement will require permission by the applicable state health department.

Dependent areas of American Samoa, Guam, Northern Mariana Islands, the Republic of Palau and the U.S. Virgin Islands — I am only permitted to release and present data at the U.S. dependency level. The release of data below the U.S. dependency level or for additional dependent areas other than the five areas listed above will require permission by the applicable health department(s).

- It is permissible to release totals (cumulative and annual) and one-way frequencies (cumulative only) of sex at birth, age group, race/ethnicity or transmission by location (i.e., U.S. dependency). No suppression rules will be applied.

Data stability requirements for release of all data regardless of level of analysis — I will include a cautionary note on stability for all levels of analyses when numbers are less than 12 or rates are calculated based on numbers less than 12, or when trends or estimates are determined to be unstable or unreliable through other statistical methods (e.g., relative standard error).

Variables permitted for release and stratification examples: — Any requests for variables other than those listed below will require approval by the HICSB Chief or Data Analysis and Dissemination Team Leader, HICSB or BCSB Chief or Behavioral Surveillance or Clinical Outcomes Team Leaders, BCSB as appropriate:

General

- Location (United States, region, U.S. dependent area, state, MSA, county, city) based on standard definitions
- Year (report, diagnosis, death, prevalence, stage of disease, infection (incidence), perinatal exposure)

Demographic/transmission

- Sex at birth (or current gender at the national/regional level only, when available)
- Age group (using 5-year groups or larger for state-level and smaller geographic populations; at diagnosis, or calculated age at end of year for prevalence)
- Race/ethnicity (based on OMB classification)
- Transmission or exposure category (as defined in *HIV Surveillance Report*)

Stratifications (examples)

1-way

- Race/ethnicity
- Sex at birth (or current gender at the national/regional level only, when available)
- Age group
- Transmission category¹
- 2-way
 - Sex at birth (or current gender at the national/regional level only) and age group
 - Sex at birth (or current gender at the national/regional level only) and race/ethnicity
 - Age group and race/ethnicity
 - Age group and transmission category
 - Transmission category and race/ethnicity
 - Transmission category and sex at birth (or current gender at the national/regional level only)

3-way

- Transmission category by age group and race/ethnicity
- Transmission category by age group and sex at birth (or current gender at the national/regional level only)

¹For the purpose of this agreement, we are considering stratifications at the variable level. Note that “male-to-male sexual contact” and the dual “male-to-male sexual contact *and* injection drug use” transmission categories include stratification by sex (i.e., include only men) but will be treated as a single variable for data releases.

- Transmission category by sex at birth (or current gender at the national/regional level only) and race/ethnicity
- Race/ethnicity by sex at birth (or current gender at the national/regional level only) and age group

4-way

- Transmission category by age group, race/ethnicity, and sex at birth (or current gender at the national/regional level only)

Data release and publication:

- I understand that release of data not specifically permitted by this agreement is prohibited unless written permission is first obtained from the appropriate branch chief (HICSB or BCSB), Division of HIV/AIDS Prevention
- When presenting or publishing state-, city-, county-, MSA-, or dependent area-specific data in accordance with the restrictions outlined above, I will inform the appropriate state(s) and local health department(s) in advance of the release of state or local data, so as to afford them the opportunity to anticipate local queries and prepare their response.
- When presenting or publishing data from surveillance-related studies, investigations, or evaluations, I will adhere to the principles and guidelines outlined in this agreement and related HICSB and BCSB standard operating procedures.
- Publication of a manuscript in a journal or as part of conference proceedings requires a CDC clearance of that manuscript, even if an abstract for that manuscript was previously cleared.

Release of geocoded HIV surveillance data:

- Any re-release of geocoded HIV surveillance data that identifies the geographic area below the state or U.S. dependent-area level is subject to written approval of the applicable health department(s) (re-release of data can be in the form of peer and non-peer reviewed manuscripts, technical reports, manuals, and presentations).
- All publications using geocoded data must be cleared through DHAP HICSB clearance.

Data Security:

1. I agree to follow standard operating procedures for maintaining security and confidentiality of surveillance and surveillance-related data.
2. I will not give my access password to any person.
3. I will treat all data at my desk site confidentially and maintain in a locked file cabinet records that could directly or indirectly identify any individual on whom CDC maintains a record. Sensitive identifying information from special case investigations will only be maintained in a locked file cabinet in a locked room which has restricted access.
4. I will keep all hard copies of data runs containing small cells locked in a file cabinet when not in use, shredding them when they are no longer necessary to my analysis.
5. I will not produce a “back-up” data file of HIV case surveillance data or related databases maintained by DHAP.
6. I will not remove electronic files, records or databases from the worksite, or access them remotely from home or other unofficial/unapproved off-worksit location.
7. I will not remove hard copies of case reports, survey instruments, laboratory reports, confidential communications, or any records containing sensitive data and information or the like from the worksite.
8. I will not remove from the worksite tabulations or data in any format that could directly or indirectly identify any individual.
9. I will maintain confidentiality of records on individuals in all discussions, communications, e-mails, tabulations, presentations, and publications (and the like) by using only the minimum information necessary to describe the individual case.

10. I will not release data to the press or media without pre-screening of the request by the NCHHSTP, Program Planning & Policy Coordination Office or the DHAP Office of Policy, Planning and Communications.

11. I am responsible for obtaining IRB review of projects when appropriate.

12. I will abide by HICSB and BCSB telework policies that prohibit accessing Assurance covered data while teleworking.

I have read this document, “Agreement to Abide by Restrictions on Release of HIV Surveillance and Surveillance-Related Data...” and the attached document “Policy for Release of Centers for Disease Control and Prevention (CDC) HIV Surveillance and Surveillance-related Data,” and I agree to abide by them. Failure to comply with this agreement may result in disciplinary action, including possible termination of employment.

Signed: _____ Date: _____

(Requestor)

CIO, Division, Branch _____

Approved: _____ Date: _____

Chief, (HICSB/BCSB), DHAP, NCHHSTP or designee

Revised October 2019

Confidentiality Security Statement Attachment 7

REQUEST FOR ACCESS TO HIV SURVEILLANCE AND SURVEILLANCE-RELATED DATABASES MAINTAINED BY THE DIVISION OF HIV/AIDS PREVENTION (DHAP)

October 2019

Requests for access may be made using this form or by email. Please include the information below in any email request for access. All requests should be made by the appropriate team lead or will include information indicating supervisory approval.

Name: _____ User ID: _____

Date of Request: _____ Branch: _____

List required data sets and access groups (if known):

Justification for Access:

Supervisory Certification:

I certify that it is a necessary part of the above staff member's official duties to have access to the National HIV Surveillance System and related surveillance databases. I have advised this employee of the confidentiality of these data and have attached a signed "Agreement to Abide by Restrictions on Release of Data".

Supervisor's Signature

Approval:

Chief, (HICSB/BCSB), DHAP or designee

For HICSB, BCSB or QSDMB Use Only (retain signed copies of "Request for Access..." and "Agreement to Abide by Restrictions..." forms and copies of MUST requests or emails to helpdesk.)

MUST action granting access submitted on _____ (date) by _____

MUST access deleting access submitted on _____ (date) by _____

National HIV Surveillance System (NHSS)

Attachment 8.

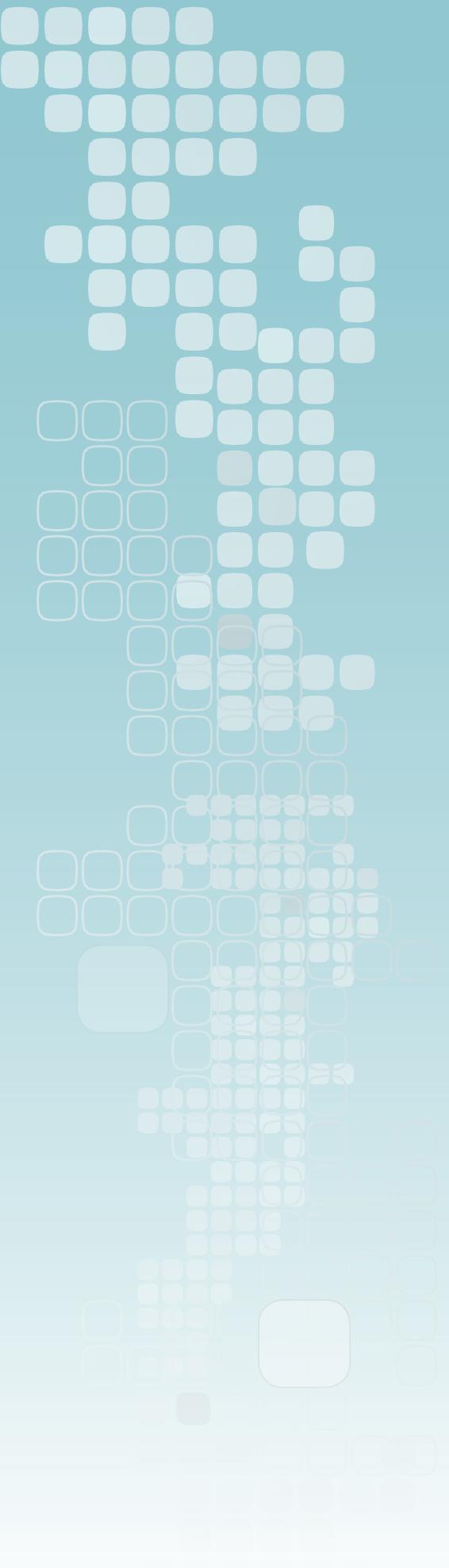
Data Security and Confidentiality Guidelines for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs: Standards to Facilitate Sharing and Use of Surveillance Data for Public Health Action. Centers for Disease Control and Prevention, 2011.

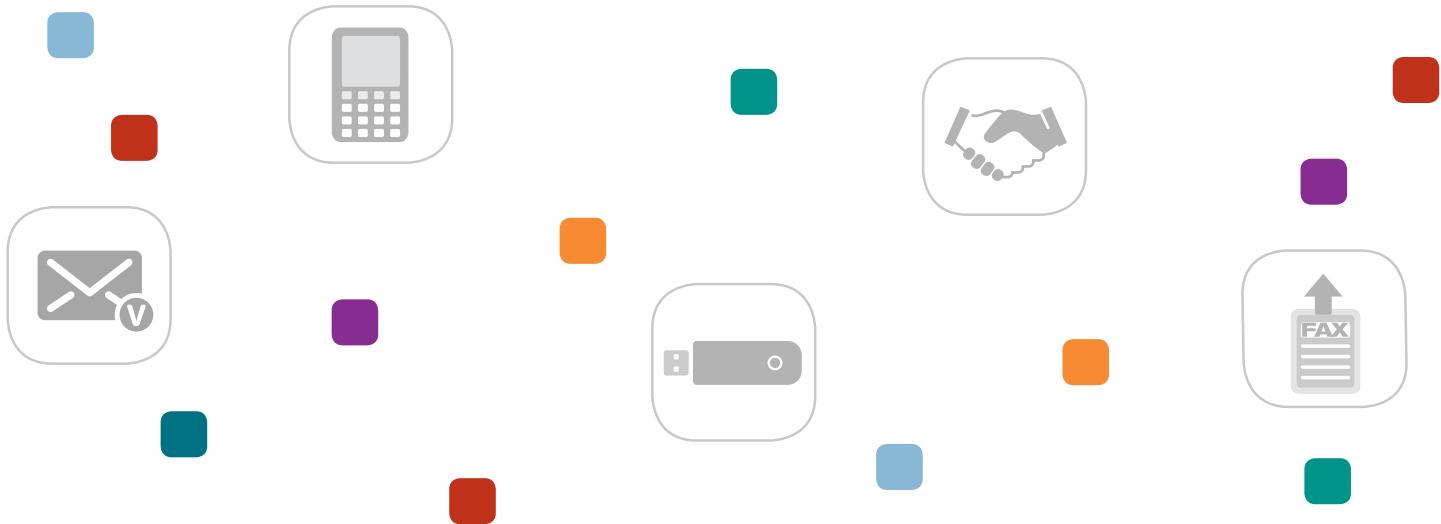


Data Security and Confidentiality Guidelines

for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs:

Standards to Facilitate Sharing and Use of Surveillance Data for Public Health Action





Data Security and Confidentiality Guidelines

for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs:

Standards to Facilitate Sharing and Use of Surveillance Data for Public Health Action

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This publication lists non-federal resources in order to provide additional information to consumers. The views and content in these resources have not been formally approved by the U.S. Department of Health and Human Services (HHS). Listing these resources is not an endorsement by HHS or its components.

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I. Executive Summary

A goal of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) is to strengthen collaborative work across disease areas and integrate services that are provided by state and local programs* for prevention of HIV/AIDS, viral hepatitis, other sexually transmitted diseases (STDs), and tuberculosis (TB). A major barrier to achieving this goal is the lack of standardized data security and confidentiality procedures, which has often been cited as an obstacle for programs seeking to maximize use of data for public health action and provide integrated and comprehensive services.

Maintaining confidentiality and security of public health data is a priority across all public health programs. However, policies vary and although disease-specific standards exist for CDC-funded HIV programs, similarly comprehensive CDC standards are lacking for viral hepatitis, STD, and TB prevention programs. Successful implementation of common data protections in state and local health departments with integrated programs suggest implementation of common data security and confidentiality policies is both reasonable and feasible. These programs have benefited from enhanced successful collaborations citing increased completeness of key data elements, collaborative analyses, and gains in program efficiencies as important benefits. Despite the potential benefits, however, policies have not been consistently implemented and the absence of common standards is frequently cited as impeding data sharing and use. Adoption of common practices for securing and protecting data will provide a critical foundation and be increasingly important for ensuring the appropriate sharing and use of data as programs begin to modify policies and increasingly use data for public health action.

This document recommends standards for all NCHHSTP programs that, when adopted, will facilitate the secure collection, storage, and use of data while maintaining confidentiality. Designed to support the most desirable practices for enabling secure use of surveillance data for public health action and ensuring implementation of comprehensive evidence-based prevention services, the standards are based on 10 guiding principles that provide the foundation for the collection, storage, and use of these public health data. They address five areas: program policies and responsibilities, data collection and use, data sharing and release, physical security, and electronic data security. Intended for use by state and local health department disease programs to inform the development of policies and procedures, the standards are intentionally broad to allow for differences in public health activities and response across disease programs.

The standards, and the guiding principles from which they are derived, are meant to serve as the foundation for more detailed policy development by programs and as a basis for determining if and where improvements are needed. The process includes seven main steps: designating an overall responsible party; performing a standards-based initial assessment of data security and confidentiality protections; developing and maintaining written data security policies and procedures based on assessment findings; developing and implementing training; developing data-sharing plans or agreements as needed; certification of adherence to standards; and

*State and local is inclusive of state, tribal, local and territorial health departments and agencies.

performing periodic reviews of policies and procedures. NCHHSTP-funded programs will also be required to verify their adherence to the standards through submission of certification statements. CDC will work with state and local health departments to monitor the implementation of the guidelines and evaluate their impact on securing data, facilitating data use, and increasing program effectiveness.

This document reflects the combined efforts of NCHHSTP's Surveillance Workgroup members, composed of surveillance leaders from NCHHSTP's Division of HIV/AIDS Prevention (DHAP), Division of Viral Hepatitis (DVH), Division of STD Prevention (DSTD), and Division of TB Elimination (DTBE). The work was informed by consultation with state and local public health leaders and public health organizations representing HIV, viral hepatitis, STD and TB disease disciplines (see Acknowledgements section). The document supersedes previously published security and confidentiality guidelines for HIV surveillance and establishes data security and confidentiality standards for viral hepatitis, STD, and TB. Establishment of these standards that apply to all surveillance activities in all of the Center's divisions will facilitate collaboration and service integration among NCHHSTP-funded programs with minimal risk of inappropriate release of confidential, identifiable surveillance data or misuse of those data in pursuit of legitimate public health purposes.

II. Introduction

The true value of surveillance is measured by its impact on public health action and practice.¹ Public health agencies at all levels have broad authority to collect, store, and use personal health information to identify, report, and control health threats and to plan, implement, and evaluate public health programs and services. The public trusts that any personal or confidential information collected as part of public health activities will be held securely and confidentially and will be used for legitimate public health purposes. Although protections exist through various laws, policies and procedures, these protections vary across jurisdictions²⁻⁴ and sometimes even within public health organizations.⁵

A goal of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) is to strengthen collaborative work across disease areas and integrate services that are provided by programs for prevention of HIV/AIDS, viral hepatitis, other sexually transmitted diseases (STDs), and tuberculosis (TB).⁶ A major barrier to achieving this goal is the lack of standardized data security and confidentiality procedures, which has often been cited as an obstacle for programs seeking to maximize use of data for public health action and provide integrated and comprehensive services.⁷ Although disease-specific standards exist for CDC-funded HIV programs,^{8,9} similarly comprehensive CDC standards are lacking for viral hepatitis, STD, and TB prevention programs.

CDC established data security and confidentiality guidelines for CDC-funded HIV surveillance programs in state and local* health departments in 1998⁸ and updated the guidelines in 2006.⁹ The guidelines emphasize the protection of surveillance data and prohibit HIV surveillance programs from sharing data with programs that lack equivalent data security and confidentiality protections. These restrictions on data sharing had the unintended consequence of inhibiting the ability of some local health departments to link clients to appropriate treatment and prevention services.^{7,10}

In 2008, CDC published updated recommendations for programs providing partner services for HIV, syphilis, gonorrhea, and chlamydial infections. The document includes recommendations related to record keeping, data collection, data management, and data security that were based on previously published HIV surveillance guidelines.¹¹ The partner services recommendations encourage data linkage and sharing between public health service-provision prevention programs and disease-reporting surveillance systems. The recommendations suggest that sharing of individual-level surveillance data can help facilitate the timely provision of partner services but also underscore the need for well-defined security and confidentiality policies and procedures. Despite the potential benefits, however, these have not been consistently implemented.

In addition, CDC cooperative agreements with TB programs require that policies and procedures must be in place to protect the confidentiality of all TB surveillance case reports and files. TB programs should also collaborate with HIV/AIDS programs to conduct at least annual TB and AIDS registry matches to ensure completeness of reporting of HIV and TB coinfected patients to both surveillance systems. However, this collaboration has been hampered by perceived differences in policies and procedures to protect HIV test results.

This document does not specify details of how, what or when data should be shared but rather establishes standards of data protection across programs that should be in place. Intended for use by state and local health department disease programs to inform the development of policies and procedures, the standards are intentionally broad to allow for necessary differences in public health activities and response across disease programs. The extent to which data are used for public health interventions and follow-up with individuals, and to which health department programs interact or share data with reporting physicians and health providers, will vary according to established program practices.

This document reflects the combined efforts of NCHHSTP's Surveillance Workgroup members, composed of surveillance leaders from NCHHSTP's Division of HIV/AIDS Prevention (DHAP), Division of Viral Hepatitis (DVH), Division of STD Prevention (DSTD), and Division of TB Elimination (DTBE). The document supersedes previously published guidelines for HIV surveillance and partner services and establishes up-to-date data security and confidentiality standards of viral hepatitis, STD, and TB.

*State and local is inclusive of state, tribal, local and territorial health departments and agencies.

Key Definitions Used in this Document

Data sharing: Granting certain individuals or organizations access to data that contain personally identifiable information with the understanding that personally identifiable or potentially identifiable data cannot be re-released further unless a special data-sharing agreement governs the use and re-release of the data and is agreed upon by the receiving program and the data provider(s).

Data-sharing agreement: Mechanism by which a data requestor and data provider can define the terms of data access that can be granted to requestors.

Data release: Dissemination of data either in a public-use file or as a result of an ad hoc request which results in the data steward no longer controlling the use of the data. Data may be released in a variety of formats including, but not limited to, tables, microdata (person records), or online query systems.

Data dissemination: Any mechanism by which data are made available to users. Includes mechanisms whereby data are released to users as well as mechanisms whereby data are made available without being released.

Personally identifiable information: As defined by [National Institute of Standards and Technology Special Publication 800-34, Guide To Protecting The Confidentiality of Personally Identifiable Information](#): "Any information about an individual maintained by an agency, including (1) any information that can be used to distinguish or trace an individual's identity, such as name, social security number, date and place of birth, mother's maiden name, or biometric records; and (2) any other information that is linked or linkable to an individual, such as medical, educational, financial, and employment information."¹²

Adapted from: CDC/ATSDR data release guidelines and procedures for re-release of state-provided data.⁴ See glossary in Appendix A for additional definitions of terms used in this document.

III. About this Document

This document recommends standards for data security, confidentiality, and use across surveillance and program areas for HIV, viral hepatitis, STD, and TB prevention in state and local health jurisdictions. The standards support the most desirable practices for enabling secure use of data and ensuring comprehensive preventive services while being broad enough to allow for differences in public health activities by disease program. The standards address five areas: program policies and responsibilities, data collection and use, data sharing and release, physical security, and electronic data security.

The standards are based on 10 guiding principles that provide the foundation for the collection, storage, and use of surveillance data for public health action. The guiding principles are derived from existing CDC policies and guidelines, model and existing legislation, and from related work, including current security and confidentiality principles for NCHHSTP's HIV surveillance programs and practical application of ethics in public health surveillance.^{8,9,11,13-20} Similar principles have been proposed as part of a national strategy²¹ consistent with public health values^{22,23} to ensure the privacy and security of public health data at all levels.

The standards are intended to apply to public health programs funded by NCHHSTP (including those of state and local health departments and their contractors) that are responsible for collecting, storing, and using surveillance data and to any entities with which these programs share data. The standards address the use of both identifiable (i.e., personally identifiable information [PII]) and nonidentifiable data and may include: data used for epidemiologic investigations; data used to link patients with partner services, appropriate treatment, interventions, and other health services; and data used for case management and program evaluation. Because the use of identifiable data requires a higher level of protection than the use of nonidentifiable data, the document includes specific standards for the sharing of identifiable data. Key definitions for data sharing, data release, data release agreement, data dissemination, and personally identifiable information are highlighted in the box above and additional terms are provided in the Glossary (Appendix A).

IV. Using this Document

Active data stewardship involves developing proactive policies, procedures, and training to ensure that public health data are collected, stored, and used appropriately. To that end, policies related to the security and sharing of data should be reviewed regularly and changed as needed. The data standards and the guiding principles from which they are derived are meant to serve as the foundation for more detailed policy development by programs and as a basis for determining if and where improvements are needed. Key components of data security and confidentiality, sharing, and use policy development are outlined below.

Overall Responsible Party (ORP)—A high-ranking official should be identified to accept overall responsibility for implementing and enforcing data security, confidentiality and sharing standards. This official should have the authority to make decisions about program operations that might affect programs authorizing, accessing or using the data, and should serve as the contact for public health professionals regarding security and confidentiality policies and practices. If the required span of control is not under a single person's purview, several persons can serve in the capacity of ORP as an ORP panel.

Initial Assessment of Data Security and Confidentiality Protections—This document is intended to serve as a planning resource for use by state and local public health programs to develop or upgrade their data security and confidentiality policies and procedures. An initial assessment will be particularly useful for state and local public health programs that currently lack data security and confidentiality policies and procedures.

A team led by the ORP should conduct an initial assessment of current data security and confidentiality protections. The team should include:

- Program managers, directors, or equivalent leaders from participating programs
- Other representatives of participating programs who may provide insight on access requirements and procedures for certain jobs or duties (e.g., surveillance staff, DIS data managers)
- Staff members with technical expertise in data security

Information technology (IT) staff should be involved at an early stage to ensure that they understand the data security and confidentiality standards and are fully engaged in the overall process. This involvement is critical as areas move to more centralized IT services and, in some cases, outsourced IT services.

The initial assessment should include the following steps:

- Identify key individuals and designate an ORP or ORP panel
- Review current security and confidentiality-related materials (e.g., written policies, procedures)
- Review relevant state and local laws that might affect data security and confidentiality policies
- Identify any policies or procedures that are either sources of data security weaknesses or barriers to information sharing and consult standard operating procedures (SOPs) from other programs that might be useful sources of ideas or suggestions for procedural changes
- Review any history of data security breaches or near-breaches, and associated lessons learned
- Assess physical security and define the secure area
- Assess electronic security protections and methods of electronic data transfer and storage
- Assess factors related to security of information in the field
- Assess training needs

Sample checklists for conducting initial and comprehensive assessments are provided in Appendix B.

Data Security and Confidentiality Policies and Procedures—Programs required by NCHHSTP to meet these guidelines are responsible for developing and maintaining written, program-specific data security and confidentiality policies and standard operating procedures, based on these guidelines, the assessment findings and in the context of state and local laws. Legislative and regulatory barriers to these standards should be addressed. State health department programs should work collaboratively with local health departments and public health partners involved in surveillance and prevention-related activities to maintain equivalent standards to the extent possible. State programs that subcontract directly with local health department programs may include compliance with these guidelines in their contractual arrangements. Local health departments that share data with state health departments should share data using the secure methods outlined in this document. NCHHSTP-funded programs may provide assistance to private providers and laboratories in implementing secure methods for reporting case data. Providers and laboratories should be encouraged to establish policies and procedures and regular training on data security and confidentiality, according to these standards.

When public health data are collected or used as part of federally funded research, they are also subject to the federal policy for the protection of human subjects as described in the Code of Federal Regulations, Title 45, Part 46.²⁴

Training—Staff members authorized to access and use public health data are responsible for adhering to their programs' data security and confidentiality policies and procedures and should receive ongoing training on an annual basis on the appropriate collection, storage, use, and dissemination of data as defined by these policies.

Data-Sharing Plans—Shared data facilitates identification of populations at risk for multiple infections and the design and implementation of programs that comprehensively address identified needs. A written plan can serve as a starting point for discussions about data sharing between or among public health programs. A data-sharing plan should include:

- Intent and scope of data sharing
- Potential benefits (including projected efficiencies) and risks of sharing, benefits and risks of not sharing, and methods to monitor these benefits and risks
- Methods that will be used to share data and roles and responsibilities of staff involved
- Minimum data elements needed to achieve the objective(s), including need for PII
- Steps that will be taken to ensure the confidentiality and security of shared data
- Provisions for physical and electronic security
- How shared data will be used, analyzed, published, released, and retained/destroyed
- Confidentiality agreements
- Knowledge and training requirements including annual training for staff who have access to PII and non-PII data

Although a written plan might not seem necessary between programs in the same health department or in integrated programs, having a plan in writing can help in resolving any conflicts. A more formal agreement, such as a data-sharing agreement or Memorandum of Understanding (MOU) may be required in certain circumstances (e.g., sharing outside the health department or with another public health organization). Programs can consult legal experts in their organizations to determine the need for a formal agreement.

Appendix C includes an example of one method of data sharing to improve program efficiencies and effectiveness.

Certification—Programs are required to self-certify their adherence to the standards for ensuring the security, confidentiality, and appropriate use of the data they collect, store, and share. The certification statement should:

- Identify one or more persons as the ORP for ensuring adherence to the standards
- Attest to adherence to all standards, or explain any lapses
- If lapses, describe steps to meet the standards in the future
- Describe policies and procedures instituted to ensure continued adherence to the standards

NCHHSTP will describe the certification process in applicable program announcements. NCHHSTP will conduct periodic reviews of the data security, confidentiality and sharing procedures of grant recipients during routine site visits and provide technical assistance as needed.

A suggested format for a certification statement is provided in Appendix D.

Periodic and Ongoing Reviews and Assessments—Programs should review their data security, confidentiality, and sharing policies and procedures at least annually or sooner if improved technologies or legislative/regulatory changes occur and revise as necessary. In addition, they should periodically assess whether other changes in personnel, programs, organizations, or priorities require changes in policies and procedures. For example, changes in federal standards for encryption could affect existing policies and procedures and require software updates or other revisions.

Programs should also review their data-sharing plans or agreements periodically in light of improved technologies and revise as necessary. Tracking the security and confidentiality training of staff members authorized to access data, including documenting and storing their signed confidentiality agreements, should also be part of ongoing assessment activities.

V. Benefits, Risks, and Costs of Sharing Data and Maintaining Security and Confidentiality

There is a balance that must be maintained between protecting the individual and the public from disease and protecting individuals' confidentiality and right to privacy. Both are vital to enhancing the public's health and maintaining the public's trust. Programs that have and follow consistent guidelines for the collection, storage, and use of HIV, viral hepatitis, STD, and TB data may reassure individuals, and the public, that sharing data for public health action will not compromise confidentiality.

Adherence to harmonized standards for data security across programs will enhance the ability to share data without compromising confidentiality. As programs consider how best to meet these standards, it is helpful to consider the benefits, risks, and costs. The public health benefits of sharing data among HIV, viral hepatitis, STD, and TB programs include the following:

- Early case detection and accurate and timely reporting of diseases
- Improved efficiencies in use of human and financial resources to achieve program objectives
- Improved projections of human and financial resources for disease programs and specific projects
- Improved opportunities to inform providers and patients about standards of care and needs for additional care
- Enhanced quality of surveillance data across programs
- Improved documentation and reporting of co-morbidities, leading to better patient management and partner services
- Better understanding of patients' health status to ensure comprehensive care and avoid redundant services and missed opportunities for prevention
- Increased understanding of how epidemics interact synergistically (syndemics), geographically, within population subgroups, or within groups engaging in specified high-risk behaviors
- Identification of specific populations that need outreach with consistent messages and targeted testing and service provision

Although data sharing has many benefits, there are also some risks. Despite the public health community's excellent track record in managing sensitive data, security breaches can occur. Harmonized data security and confidentiality standards among programs, and a commitment to enforcing them, can, however, minimize these risks. Breaches involving electronic data with identifiable information (e.g., human error resulting in reports going to the wrong patient or provider or databases being stolen or accessed illegally) might cause greater harm because more information about more individuals is released. Therefore, procedures for electronic data security must be developed. However, there are also some risks to not sharing data. Individuals might not receive prevention services, clients might not receive appropriate treatment, clients might not receive treatment at all, and disease transmission might increase.

Costs associated with improvements in data security can be a barrier to data sharing. To facilitate data sharing, hardware and software systems need to be compatible. Electronic transfer of data needs to be performed securely. Storage of data needs to be secure and remain confidential at all levels. Additional computer programming support may be required to facilitate secure data sharing across programs, conduct data matches, meet systems requirements, and de-duplicate data.

VI. Guiding Principles for Data Collection, Storage, Sharing, and Use to Ensure Security and Confidentiality

The 10 principles below are intended to guide NCHHSTP-funded programs in developing data security and confidentiality policies. The principles should guide the collection, storage, and use of data for legitimate public health purposes. Legitimate public health purposes can be defined as a population-based activity or individual effort aimed primarily at the prevention of injury, disease, or premature mortality. This term also refers to the promotion of health in the community, including 1) assessing the health needs and status of the community through public health surveillance and epidemiologic research; 2) developing public health policy; and 3) responding to public health needs and emergencies. Public health purposes can include analysis and evaluation of conditions of public health importance and evaluation of public health programs. The principles also underpin the data security standards defined in the following section.

TEN GUIDING PRINCIPLES FOR DATA COLLECTION, STORAGE, SHARING, AND USE TO ENSURE SECURITY AND CONFIDENTIALITY

- 1.** Public health data should be acquired, used, disclosed, and stored for legitimate public health purposes.
- 2.** Programs should collect the minimum amount of personally identifiable information necessary to conduct public health activities.
- 3.** Programs should have strong policies to protect the privacy and security of personally identifiable data.
- 4.** Data collection and use policies should reflect respect for the rights of individuals and community groups and minimize undue burden.
- 5.** Programs should have policies and procedures to ensure the quality of any data they collect or use.
- 6.** Programs have the obligation to use and disseminate summary data to relevant stakeholders in a timely manner.
- 7.** Programs should share data for legitimate public health purposes and may establish data-use agreements to facilitate sharing data in a timely manner.
- 8.** Public health data should be maintained in a secure environment and transmitted through secure methods.
- 9.** Minimize the number of persons and entities granted access to identifiable data.
- 10.** Program officials should be active, responsible stewards of public health data.

Adapted from: Lee, LM, Gostin, LO. Ethical collection, storage, and use of public health data: a proposal for national privacy protection. JAMA 2009;302:82-84

VII. Standards for Data Collection, Storage, Sharing, and Use to Ensure Security and Confidentiality

The following standards are based on the 10 guiding principles listed in the previous section. They represent recommended standards to ensure the security, confidentiality, and appropriate use, including sharing, of data collected by NCHHSTP-funded programs.

The standards are grouped into five topical areas: program policies and responsibilities; data collection and use; data sharing and release; physical security; and electronic data security. Each standard is followed by a brief background or explanatory statement and a set of questions to guide programs in policy development and implementation.

1.0 PROGRAM POLICIES AND RESPONSIBILITIES

STANDARD 1.1 Develop written policies and procedures on data security and confidentiality; review policies and procedures at least annually; revise them as needed; and ensure their review by and accessibility to all staff members having authorized access to confidential individual-level data.

Programs should develop and maintain written policies and procedures on data security and confidentiality. Written policies and procedures should include:

- Review of applicable laws and regulations
- Description of applicable data (include details on types of records, systems, and reports)
- Roles and responsibilities of persons with authorized access to the data
- Applicable confidentiality agreements
- Controls for data management, security, and access (physical and electronic)
- Address when use of privacy advice or reminder is appropriate (i.e., when to include privacy advice at the point of information use on forms, information collection devices, systems, file cabinets, etc.)
- Specified policies applicable to trainees, students, volunteers, visitors, and cleaning and security staff.
- Provisions to limit disclosure and prevent indirect release of PII
- Guidance on data sharing

Policies should be introduced to new staff members, students, and volunteers during orientation and reviewed with all staff members during annual training sessions. Staff members should also be notified of any changes or updates to data security policies.

See Appendix E for a suggested outline of a policy for data security, confidentiality, sharing and use.

GUIDING QUESTIONS:

- » Does the program have written policies and procedures on data security and confidentiality?
- » Are the policies and procedures consistent with the standards in this document?
- » Are the policies and procedures available and accessible to program staff?
- » Are staff trained in the policies and procedures and alerted to any revisions?

STANDARD 1.2 Designate a person or persons to act as the overall responsible party (ORP) for the security of public health data your program collects or maintains, and ensure that the ORP is named in any policy documents related to data security.

The purpose of naming an ORP is to increase program accountability for data security. The ORP should have the authority to modify programs and policies to meet the standards in this document. The ORP can be selected from the program, section, or agency level. The agency's organizational structure might demand designating more than one person as ORP (i.e., an ORP panel). The ORP(s) may also choose to have data releases or proposed data sharing activities reviewed by a group of designated individuals to facilitate the review process and ensure the risks and benefits of the proposed activities are considered and make recommendations.

GUIDING QUESTIONS:

- » Has an ORP been designated and named in all relevant policy documents?
- » Does the ORP have authority to modify data security policies and procedures for compliance with the standards in this document?

STANDARD 1.3 Ensure that data security policies define the roles and access levels of all persons with authorized access to confidential public health data and the procedures for accessing data securely.

Access to surveillance data needs to be planned. The number of people with access to identifiable information should be kept to a minimum, and de-identified data should be used for routine analyses whenever possible. Operational security procedures should be devised to minimize the number of people with access to confidential data. Written procedures should specify how to obtain authorization for access to both PII and de-identified data.

GUIDING QUESTIONS:

- » Is authorized access granted based on the data user's need to know?
- » Is the number of persons with access to PII kept to a minimum?

STANDARD 1.4 Ensure that data security policies require ongoing reviews of evolving technologies and include a computer back-up or disaster recovery plan.

Because the technology used to secure data is constantly evolving, information technology and security professionals should be included in the development and review of data security policies and procedures. Policies should include plans for a secondary, secure, off-site computer operation that can go into effect in the event of a catastrophic failure at the primary location. The National Institute of Standards and Technology Special Publication 800-34, Contingency Planning Guide for Federal Information Systems contains guidance on contingency planning for IT resources and is available at: <http://csrc.nist.gov/publications/PubsSPs.html>.²⁵

GUIDING QUESTIONS:

- » Have persons with technical expertise in information and system security been consulted to ensure that data security policies and procedures are adequate?
- » Do policies and procedures include a disaster recovery plan?

STANDARD 1.5 Ensure that any breach of data security protocol, regardless of whether personal information was released, is reported to the ORP and investigated immediately. Any breach that results in the release of PII to unauthorized persons should be reported to the ORP, to CDC, and, if warranted to law enforcement agencies.

Guidelines for a risk-based approach for protecting confidentiality of PII, including responding to breaches (incident response), are described in the National Institute of Standards and Technology Special Publication 800-122, Guide to Protecting the Confidentiality of Personally Identifiable Information available at <http://csrc.nist.gov/publications/>.¹² The data security policy should include procedures for reporting suspected breaches, including who to notify about a suspected breach. Staff members should be familiar with the program's definition of a security breach. Staff members should review procedures during annual security training. A log of security breaches and lessons learned during investigations of breaches might be useful in revising security policies.

Breaches that do not result in the release of PII can be handled within programs. Breaches that result in unauthorized disclosure of PII require immediate consultation with legal counsel and notification of high-level authorities in the agency to ensure appropriate action. There are federal requirements for reporting breaches of PII involving federal data or federal supported systems. For instance, based on OMB Memorandum 06-19 (<http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2006/m06-19.pdf>),²⁶ if PII from a federally supported system were to be released to, or stolen by, unauthorized persons, that breach must be reported to federal security officials within one hour of its discovery. For NCHHSTP, the designated person is the Information System Security Officer (ISSO) for the Center. Both the ISSO and the CDC program contact need to be notified immediately.

GUIDING QUESTIONS:

- » Are procedures in place to respond to breaches in data security?
- » Does the data security policy identify the person to be notified if a breach is suspected?
- » Are staff members familiar with the program's definition of a security breach?

STANDARD 1.6 Ensure that staff members with access to identifiable public health data attend data security and confidentiality training annually.

All staff members (including IT personnel, contractors, and mail room and custodial staff) require generic security awareness training to ensure and support a culture of confidentiality, but staff who have access to PII require additional training specific to their responsibilities and level of authorized access to PII. Training should cover:

- Personal responsibilities
- Procedures for ensuring physical security of PII
- Procedures for electronically storing and transferring data
- Policies and procedures for data sharing
- Procedures for reporting and responding to security breaches
- Review of relevant laws and regulations

All staff should have documentation of completion of their training. Programs are responsible for maintaining this documentation in their personnel files.

GUIDING QUESTIONS:

- » Is security training required for new staff members and annually for all staff members?
- » Are there specific modules related to job responsibilities? For example, mail room and custodial staff would have different training components based on job duties and likelihood of access to confidential material.
- » Does the training cover the standards in this document?
- » Does the training include a review of physical and electronic data security procedures, confidentiality procedures, and release and sharing procedures on an ongoing basis?
- » Is attendance at the training sessions documented?
- » Are training materials updated as needed?

STANDARD 1.7 Require all newly hired staff members to sign a confidentiality agreement before being given access to identifiable information; require all staff members to re-sign their confidentiality agreements annually.

All staff (including IT, mail room, and custodial staff) should sign a nondisclosure or confidentiality agreement stating that the employee agrees not to release PII to any unauthorized persons. The agreement should be maintained in the employee's personnel file. A confidentiality agreement should be required before assigning passwords or keys that allow access to PII. Policies and procedures should address staff out-processing and relinquishment of authorized access.

GUIDING QUESTION:

- » Are all staff members required to sign a confidentiality agreement before they are granted access to PII?

STANDARD 1.8 Ensure that all persons who have authorized access to confidential public health data take responsibility for 1) implementing the program's data security policies and procedures, 2) protecting the security of any device in their possession on which PII are stored, and 3) reporting suspected security breaches.

The data security responsibilities of staff members should be incorporated into their confidentiality agreements and reviewed during annual training. Supervisors should consider including security-related questions in annual performance reviews as a way of gauging staff members' understanding of their data security responsibilities.

Responsibilities of persons with authorized access to PII include but are not limited to:

- Protecting keys, passwords, and codes that would facilitate unauthorized access to PII
- Taking appropriate action to avoid infecting computer systems with viruses and other malware
- Protecting computers and devices from extreme heat and cold
- Protecting mobile devices and storage media from loss or theft
- Appropriate use of personal computers and storage devices
- Appropriate removal of data from secure facilities

GUIDING QUESTIONS:

- » Are the data security responsibilities of staff members outlined in their confidentiality agreements?
- » Are these responsibilities reviewed annually?
- » Are staff members aware of relevant data security policies? Have they completed security training?
- » Do staff members know how, and to whom, to report suspected security breaches or instances of unauthorized access? Are they familiar with the criteria for reporting and investigation?

STANDARD 1.9 Certify annually that all data security standards have been met.

Programs should self-certify annually and work collaboratively with CDC to address any problem areas. At a minimum, programs should provide a statement that:

- Identifies the ORP
- Attests to the program's adherence to the data security standards
- Cites policies and procedures that document adherence to these standards
- Documents any reasons for non-adherence, with plans for remediation

GUIDING QUESTIONS:

- » Has an ORP been named?
- » Has a statement attesting to adherence to the standards been provided?
- » Is a list of confidentiality and security policies and procedures available upon request?

2.0 DATA COLLECTION AND USE

STANDARD 2.1 Clearly specify the purpose for which the data will be collected.

Written policies and procedures should describe the intended public health purposes for collecting data and the scope and limits of the data collection activities when data are shared or used. A "legitimate" public health purpose includes efforts to prevent disease or premature death or promote health among members of a community through activities such as:

- Assessing the health needs and health status of a community through public health surveillance and epidemiologic research
- Developing public health policy
- Responding to public health needs and emergencies
- Evaluating public health programs

GUIDING QUESTIONS:

- » What is the rationale for the proposed data collection?
- » What is the intended use for the data?
- » What are the limits on how the data may be used?
- » Is the proposed data collection likely to lead to a reduction in morbidity and mortality rates through targeting of public health interventions without creating undue burdens?
- » Is the proposed data collection significantly different from other approved public health data collection efforts?

STANDARD 2.2 Collect and use the minimum information needed to conduct specified public health activities and achieve the stated public health purpose.

Before implementing data-collection or data-sharing activities, public health practitioners should specify minimum data elements and consider whether collection and use of personally identifiable data will be necessary to achieve their public health goal.

The minimum information requirement will vary based on the activity. For example, certain personal identifiers are required for activities requiring follow-up with individuals; for partner services, that might include name and locating information such as an address, in addition to other information deemed critical for the investigation. When considering a new data-collection or data-sharing effort, consider the following guidelines:

- Specify minimum data elements, and include only the information needed to achieve the public health goal(s).
- Minimize or avoid collecting information just because it might be of later use or because it is easily accessible.
- Refer to similar high-quality data-collection efforts or data-sharing activities with proven success.
- Avoid unnecessary retention or creation of multiple data collections or data management systems (the more collections/systems, the greater the complexity of security management).

GUIDING QUESTIONS:

- » What is the minimum amount of demographic, geographic, and health-related data needed to accomplish the public health goal of the proposed data collection?
- » Are all proposed data elements justifiable in terms of their contribution toward achieving the public health goal?
- » Are key data elements similar enough to those collected through previous data collection efforts to allow needed comparisons?

STANDARD 2.3 Collect personally identifiable data only when necessary; use nonidentifiable data whenever possible.

Identifiable data require a higher standard of protection than nonidentifiable data. Collection and use of identifiable data are justifiable if the data are to be used for a public health purpose that cannot be achieved through the use of nonidentifiable data. Published standards and recommended practices for maintaining confidentiality of PII and de-identification of data can be used to guide policy development.^{12,18,27-32}

GUIDING QUESTIONS:

- » Is the use of PII necessary to achieve the public health goal of the proposed data collection?
- » Have possible alternatives to using identifiable data, such as using anonymized data, been explored?
- » What are the risks and benefits of using identifiable data?
- » What is the scientific reliability and validity of identifiable data when used for the purposes proposed?
- » When should informed consent be obtained, and what should be done when obtaining informed consent is not feasible?
- » Can identifying information be separated from other sensitive information by the use of a meaningless common identifier?

STANDARD 2.4 Ensure that data that are collected and/or used for public health research are done in accordance with stipulations in Common Rule, Title 45, Part 46 of the Code of Federal Regulations, which includes obtaining both institutional review board (IRB) approval for any proposed federally funded research and informed consent of individuals directly contacted for further participation.

The use of identifiable data for research is contingent on a demonstrated need for the data, IRB approval, and the signing of a confidentiality agreement regarding rules of access and final disposition of the information. The use of nonidentifiable data for research is generally permissible but might still require IRB approval, depending on the amount and type of data requested. Programs should consult applicable guidance on research versus practice and human subjects regulations.^{24,33}

GUIDING QUESTIONS:

- » What procedures are in place to determine whether a proposed use of identifiable public health data constitutes research requiring IRB review?
- » Has the proposed research been determined to serve a legitimate public health purpose?
- » Has the proposed research been submitted for appropriate review and evaluation by an IRB?
- » What efforts have been made to inform the public or affected communities about research involving identifiable data?

3.0 DATA SHARING AND RELEASE

STANDARD 3.1 Limit sharing of confidential or identifiable information to those with a justifiable public health need; ensure that any data-sharing restrictions do not compromise or impede public health program or disease surveillance activities and that the ORP or other appropriate official has approved this access.

This standard applies to the sharing of data with other public health entities that might need routine access to the data for a related public health function. For example, a TB surveillance unit and HIV unit that routinely match case registries to update case information might require some reciprocal access to each other's information. Or, a partner services program might need access to limited information on newly reported HIV cases to initiate partner services. Such access should be authorized by the ORP(s) of the program(s) maintaining the data and limited to the minimum number of persons, and amount of information necessary.

When proposing changes to policies affecting access to public health data, if the changes are significantly different from standard practices or controversial, it is good practice to first seek input from members of affected communities, medical providers, and/or other key stakeholders to ensure that the proposed changes do not adversely affect public trust in, or the integrity of, the public health system.

For any routine, authorized sharing of information, programs should verify:

- Appropriateness of sharing
- Integrity of the information shared
- Identity of the recipient
- Security of the method through which the information will be shared

GUIDING QUESTIONS:

- » Is access to PII necessary to achieve a specified public health function?
- » Have steps been taken to limit access to the fewest number of persons necessary?
- » Is information sharing reduced to the minimum information necessary?
- » Do procedures by which data will be accessed include adequate data security and confidentiality protections?

STANDARD 3.2 Assess the risks and benefits of sharing identifiable data for other than their originally stated purpose or for purposes not covered by existing policies.

Public health interventions and research often rely on the use of shared data. However, strict norms of privacy and confidentiality must govern any sharing of data, and de-identified data should be used whenever possible. Data should be shared only for legitimate public health purposes and all data sharing must comply with applicable laws and regulations. See Glossary in Appendix A for a definition of legitimate public health purposes.

Determining whether proposed data sharing is “legitimate” often involves ethical questions. An autonomous body composed of persons familiar with ethics in public health surveillance may provide insight and feedback on proposed activities.³⁴ Several models of ethical decision-making might provide useful, practical guidance for decisions on data use.³⁵⁻³⁹

- Begin by identifying the public health ethics issues in the specific situation, including those related to risks and benefits, public health goals, stakeholders, and precedent cases.
- Generate and compare different options or courses of action and the ethical rationale for each. Choose the best option and justify the chosen course of action.
- Evaluate the selected action to determine if the desired outcome was achieved.

GUIDING QUESTIONS:

- » Have all alternatives to sharing such data been explored?
- » Is the sharing of identifiable data necessary?
- » Is the proposed use within the scope of your data-release policy and for a legitimate public health purpose?
- » Have the security and confidentiality standards of the requesting party been assessed? Are the standards adequate?
- » Does the entity receiving identifiable data have in place confidentiality and security standards that meet the standards outlined in this document?

STANDARD 3.3 Ensure that any public health program with which personally identifiable public health data are shared has data security standards equivalent to those in this document.

Confidentiality can be compromised if data are shared with programs that lack adequate security and confidentiality protections.

- Share data only after the ORP(s) has weighed the benefits and risks of allowing access.
- Share data only with programs that have written policies and procedures establishing data security and confidentiality protections equivalent to those in this document.

GUIDING QUESTIONS:

- » Does the program accessing the data have written security and confidentiality policies and procedures?
- » Have the policies and procedures been reviewed and found to be consistent with the standards in this document?

STANDARD 3.4 Ensure that public health information is released only for purposes related to public health, except where required by law.

Programs should establish data release policies and procedures that delineate any exceptional circumstances that may warrant the release of identifiable data and how the confidentiality of such data will be protected. Programs can develop routine disclosure procedures that outline a process for reviewing routine disclosures.⁴⁰ Review procedures could include designating a group of persons, including the ORP(s) to review nonroutine data releases. Before allowing nonroutine disclosures, policies could include a brief period of contemplation, or timeout, before releasing data to minimize risk of improper disclosure.⁴⁰

Programs should not release PII to anyone outside of public health except in circumstances involving significant risk of harm to the public or if required by law. Even when required, only the minimum information should be released. The ORP and legal counsel of the program(s) controlling the data should review any request for PII to determine the specific data, if any, that must be released. In some instances, the information requested may be available from other sources. When information is ordered for release as part of a judicial proceeding, any release or discussion of information should occur in closed judicial proceedings, if possible.

GUIDING QUESTIONS:

- » Is the release of identifiable data to officials in law enforcement, immigration control, or public welfare management justified by an imminent threat to individuals or populations or other compelling circumstances?
- » Have all possible alternatives to the use of identifiable data been examined before the release of such data?
- » Has a legal analysis been conducted by the health department's legal counsel?
- » What non-public health use of the data is required or allowed by law?

STANDARD 3.5 Establish procedures, including assessment of risks and benefits, for determining whether to grant requests for aggregate data not covered by existing data-release policies.

Procedures could include a process designating a group of persons to review requests that are outside the stated policy. Any data release must be for a legitimate public health purpose and in accordance with applicable laws and regulations.

GUIDING QUESTION:

- » Are there precedents for the requested release of data? If so, how were those precedent cases handled?

STANDARD 3.6 Disseminate nonidentifiable summary data to stakeholders as soon as possible after data are collected.

Written policies should address procedures for the dissemination of nonidentifiable summary data to stakeholders and the public. Summary data should be disseminated in a manner that facilitates understanding by affected populations and illuminates the compounding impact of syndemics.

Since some aggregate data could be used to identify individuals, policies should usually restrict release of certain data elements to avoid a confidentiality breach. Wider public access and searchability of databases (e.g., death records and obituaries) increases the capability to re-identify other de-identified data. Consideration should be given to consulting with de-identification experts prior to release when in doubt. In some instances, the obligation to use the data to help members of demographic groups examine trends and burden of disease for public health planning might outweigh the risk of possible stigma that could be associated with some aggregate data. For example, the release of data showing high rates of alcohol and drug use in a small community, although potentially stigmatizing, must be weighed against the potential additional resource planning and allocation for drug and alcohol treatment services that could result from such a release.

GUIDING QUESTIONS:

- » Have data dissemination plans been described? What efforts have been made to ensure that nonidentifiable data are disseminated regularly and in a timely manner?
- » Are procedures in place to assess the usefulness of data dissemination efforts?
- » What precautions have been taken to ensure that the disseminated data are not presented in ways that may indirectly identify individuals?

STANDARD 3.7 Assess data quality before disseminating data.

Evaluations of data quality should occur during collection, management, analysis, and use to ensure sufficiently accurate and valid data. The quality of public health data is critical to the validity of public health policies and actions based on these data.

Guidance on ensuring data quality is provided in the HHS Guidelines for Ensuring the Quality of Information Disseminated to the Public, Part D, CDC and the Agency for Toxic Substances and Disease Registry (ATSDR). Quality assurance mechanisms described in the document include internal reviews, external reviews, merit reviews, and peer reviews. Programs may also consult with independent researchers and experts in areas such as data collection and data analysis; maintain ongoing contact with data users and participate in conferences and workshops to assess the needs of potential data users; and use a wide variety of dissemination mechanisms to make statistical and analytic information broadly accessible.⁴¹

STANDARD 3.8 Ensure that data-release policies define purposes for which the data can be used and provisions to prevent public access to raw data or data tables that could contain indirectly identifying information.

The main challenge in developing responsible data-release policies is to balance the need to make data available to a broad audience and in a timely manner with the need to protect individual privacy. Data-release policies should address:

- Purpose and types of data (e.g., de-identified, patient-level, and aggregate) that can be released
- Intended audience
- Rules for suppression
- Rules for dissemination of aggregate data products
- Physical and electronic (including IT) controls to ensure data security
- Mechanisms and procedures for requesting data and considering data requests
- Suggested formats for data-use agreements

Useful standards for data-release and data-sharing reflect principles and policies outlined in the CDC/ATSDR Policy on Releasing and Sharing Data,¹³ the CDC-CSTE Intergovernmental Data Release Guidelines Working Group Report: CDC/ATSDR Data Release Guidelines and Procedures for Re-release of State-Provided Data.⁴ The CDC/ATSDR policy provides guidance aimed at balancing the desire to disseminate data as broadly as possible with the need to maintain high standards and protect confidential information, while also ensuring compliance with applicable federal regulations and guidelines. The Office of Management and Budget's (OMB) Federal Committee on Statistical Methodology, Statistical Policy Working Paper 22: Report on Statistical Disclosure Limitation Methodology also provides useful guidance for developing data release policies.³¹

GUIDING QUESTIONS:

- » Do the data-release policies address the following?
 - Roles and responsibilities of program personnel, including any confidentiality agreements they must sign and any training they must receive
 - Access procedures and authorization rules
 - Descriptions of the data and to whom, and in what format, they can be released
 - Procedures for data release
 - Specific requirements for sharing identifiable data
 - Mechanisms for data release, including rules for minimizing disclosure such as cell-size restrictions
 - Disposition of data after they have been used for a stated purpose
- » Do data release plans include mechanisms for evaluating the usefulness of released data and whether the release of data is causing undue burden on individuals or communities?

4.0 PHYSICAL SECURITY

STANDARD 4.1 To the extent possible, ensure that persons working with hard copies of documents containing confidential, identifiable information do so in a secure, locked area.

Physical access controls should be in place to protect hard-copy data and computer equipment. Operational security procedures should be devised to minimize the number of storage locations in which PII is held.

Minimum Secure Area

- Work space with limited access for only necessary staff
- Locked file cabinets that are large and heavy enough to render them immobile
- A designated location within the work space where confidential conversations may be held

Enhanced Security Configurations

- A dedicated, secure area accessible only via locked door with limited key or keycard distribution to minimal staff
- Double-locked file cabinets that are large and heavy enough to render them immobile
- A workstation/table equipped with a telephone and computer to handle data within the secure space

A dedicated, secure room would be the preferred location for confidential, secured data stored in locked, immobile cabinets. Additionally, this space could provide a table or work station for staff to conduct confidential telephone conversations. In the absence of a dedicated, secure room, a reasonable alternative could be an area which is accessible only from within the surveillance area to house immobile, locked file cabinets. If necessary, one secure file cabinet could be shared by several small programs within a jurisdiction if they have the same data security standards.

If data must be stored or used in less than ideally secure work areas, the security of these areas should be improved as much as possible. For example, in many workplaces confidentiality is improved by requiring paper documents with confidential information to be kept locked in desk drawers when not in use or when a worker is away from his or her desk. Security might also be improved by reconfiguring cubicles, office partitions, and requiring confidential phone conversations to take place in a private room. This is not an exhaustive list of improvements, but it shows that creative thinking may be needed to turn an open work area into a more secure workplace.

In the course of public health work, and in the evolving modern work environment, confidential data may be handled not only outside the secure work area, but off-site, in the field, or in telework/remote sites (see Appendix G for guidelines on working in nontraditional settings).

It is critical that project areas develop and implement protocols for telework, remote work, and field work, in addition to core confidentiality and security policies. Even if these work activities have not yet been implemented in a project area, provisions should be made for their future implementation by including them in the current protocols.

GUIDING QUESTIONS:

- » Are hard copies of confidential or identifiable data kept in a secure area?
- » Are physical controls adequate to ensure that paper copies of material containing identifiable data are secured in lockable filing cabinets within a locked secured area with controlled access?

STANDARD 4.2 Ensure that documents containing confidential information are shredded with crosscutting shredders before disposal.

Crosscutting features are needed to ensure confidential information cannot be recovered. See [National Institute of Standards and Technology Special Publication 800-88, Guidelines for Media Sanitation](#), available at <http://csrc.nist.gov/publications/>, for discussion of shredding and destruction of paper and other media.⁴² Contracting with a document-shredding service may be an option for some programs. If a service is used, be sure that documents are shredded on site and in the presence of a staff member. In all cases, a contract shredding or disposal company must be bonded, and due diligence should be taken in the selection of the company.

GUIDING QUESTIONS:

- » Do staff members have access to a crosscutting shredder?
- » Is there a records-retention policy governing disposal of paper copies of confidential information?

STANDARD 4.3 Ensure that data-security policies and procedures address handling of paper copies, incoming and outgoing mail, long-term paper storage, and data retention. The amount of confidential information in all such correspondence should be kept to a minimum and destroyed when no longer needed.

Policies should address retention of paper copies. If electronic copies exist, paper copies can be destroyed when no longer needed, in accordance with established health department policies. Provisions should be made to destroy copies using methods described in Standard 4.2.

GUIDING QUESTIONS:

- » Do policies describe procedures for managing incoming and outgoing mail containing confidential information?
- » Do procedures specify minimum information criteria for paper copies?
- » What data retention policies apply to the data?

STANDARD 4.4 Limit access to secure areas that contain confidential public health data to authorized persons, and establish procedures to control access to secure areas by non-authorized persons.

Data security policies and procedures should specify who has access to secure areas. Policies and procedures must also address the need for access by unauthorized persons (e.g., cleaning, maintenance, and security staff). Programs might consider providing cleaning crews with access to secure areas only when authorized staff members are present or when confidential materials are stored and protected.

GUIDING QUESTIONS:

- » Do policies adequately describe who has access to secure areas?
- » Do data security policies and procedures address access to secure areas and file storage areas by cleaning crews and maintenance staff?
- » Are procedures in place to control access to secure areas by other unauthorized personnel?

STANDARD 4.5 Ensure that program personnel working with documents containing PII in the field 1) return the documents to a secure area by close of business, 2) obtain prior approval from the program manager for not doing so, or 3) follow approved procedures for handling such documents.

Simple physical theft is a major cause of health information breaches. Transportation and use of PII outside of secure areas should, therefore, be minimized and carefully controlled. Programs employing field workers should establish specific procedures for:

- Working with PII outside of secure areas
- Obtaining or documenting a manager's approval to do so
- Physically securing documents containing PII that remain in staff custody after usual work hours

GUIDING QUESTIONS:

- » Do policies include procedures for securing documents containing PII when they cannot be returned to a secure work site by the close of business?
- » Do policies outline specific reasons, permissions and physical security procedures for using, transporting and protecting documents containing PII in a vehicle or personal residence?

STANDARD 4.6 Ensure that documents with line lists or supporting notes contain the minimum amount of potentially identifiable information [PII] necessary and, if possible, that any potentially identifiable data are coded to prevent inadvertent release of PII.

To the extent possible, PII should not be removed from a secure location or accessed from an unsecure area. However, some public health activities (e.g., field investigations and service provision) require taking such information into unsecure areas. In these situations, the use of PII should be limited and appropriate security measures implemented.

GUIDING QUESTIONS:

- » Is access to public health notes and investigation information containing identifiable data limited to personnel requiring the information for an approved purpose?
- » Are confidential data elements coded?

5.0 ELECTRONIC DATA SECURITY

Implementation of electronic data security standards will be conducted in a rapidly evolving technological environment. While technology is changing, the following elements will remain important to consider when developing policies.

Access: Access to surveillance data needs to be planned in advance. Access groups can be set up in virtually all IT environments, which will allow the program to designate users with different levels and types of rights. Programs should specify who has access to various data, under what circumstances, and how the identity of users are authenticated. For example, they might stipulate that identifiable data should be accessed only from a properly secure network server rather than from local workstations. Isolated segments or domains can be implemented, which limits access to those in selected groups. They also might limit the times during which data can be accessed, restrict the copying or downloading of data, and set up other controls as needed. Due to the technical nature of these control measures, IT personnel should be involved in the initial assessment and both the formulation and implementation of electronic data security policies. Appendix G also addresses electronic data security issues.

Encryption and Backups: Although encryption may not be needed for data on a production registry or surveillance data system located within a secure area and separate from any networks, encryption is still recommended. Any data in such a registry or system do need to be encrypted before being transmitted or downloaded to approved locations and while being used in the field on laptops or similar devices. Although surveillance databases and other files with identifying information need to be backed up, back-up databases and files should be encrypted in accordance with federal encryption standards and stored in a secure location. Bonded storage companies can be used to store back-up files of identifiable data as long as the data are encrypted according to standard operating procedures. Encryption is one means of increasing data security. Backup data should also be encrypted before being copied to a

secure location. All encryption methods need to meet standards detailed in Federal Information Processing Standards (FIPS) Publication 197, Advanced Encryption Standard (AES). (See <http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf>).⁴³

Evolving Technologies: Many public health workers handle PII in the field while pursuing public health activities, and as technology continues to evolve, use of PDAs, electronic tablets, and notebook computers may involve data stored on portable devices. Programs must therefore plan for migration from paper-oriented to electronic systems that meet established and evolving electronic and procedural security standards. Forward-looking confidentiality and security protocols should include provisions for phones, PDAs, tablets, and workbooks that take client-identified data to the field and allow for real-time updates, reporting, and data entry from field sites as well as by medical staff in examination rooms. These protocols should also provide accountability measures to ensure that staff members employ this secured, confidential data in appropriate locations while in the field. Programs may review [National Institute of Standards and Technology Special Publication 800-124, Guidelines on Cell Phone and PDA Security](#), available at <http://csrc.nist.gov/publications/> when developing policies.⁴⁴

Surveillance programs will be increasingly using electronic medical records and electronic laboratory records to complete case reports. Many health departments already have or are considering public health information exchanges which have the potential to enhance surveillance data collections. When implementing these activities programs should ensure secure methods are used and policies and procedures ensure security and confidentiality of data. Additional resources on electronic data exchange can be found at <http://www.cdc.gov/ehrmeaningfuluse/> and the public health information network (<http://www.cdc.gov/phin/>).

Secure Transmission: Data to be transmitted across defined, secure boundaries should be transmitted through the use of secure methods, such as secure data networks (SDNs), virtual private networks (VPNs), and secure file transport protocol (SFTP). Although these methods can be used to encrypt data in transit, they do not encrypt data before they are sent or after they are received. Therefore, if either the sender or the recipient of the data is not part of a defined security zone appropriate for sensitive data, data should be encrypted by another method prior to being transmitted. Since transmission of data via cell phones or PDAs is similarly insecure, identifiable information should also not be sent with these devices.

STANDARD 5.1 Ensure that analysis data sets that can be accessed from outside the secure area are stored with protective software (i.e., software that controls data storage, removal, and use), and verify removal of all personal identifiers.

Analysis data sets should be stored on a separate server or segmented local area network (LAN). At a minimum, analysis data sets should be located on a virtual server and all personal identifiers should be removed. The inclusion of sensitive or potentially linkable data elements such as a lab ID, accession number, or case report number should be limited to those required for analysis and should not be included in analysis data sets. Given the increasing ability to re-identify records by matching between multiple publicly accessible databases, consultation with a de-identification expert may be useful before making de-identified databases publicly available.

Encryption of analysis data sets, when not in use, is not necessary if personally identifiable data

elements have been removed. However, encryption is recommended as additional protection from accidental or purposeful misuse.

GUIDING QUESTIONS:

- » Are roles assigned to selected individuals to create analysis data sets to minimize the number created?
- » What measures have been taken to ensure that analysis data sets are created, stored, and accessed securely?
- » Do data security policies describe the data elements that may be included in analysis data sets?

STANDARD 5.2 Ensure that any electronic transfer of data is approved by the ORP and subject to access controls, and that identifiable data are encrypted before being transferred.

This standard applies particularly to situations in which data are obtained electronically from sources outside the health department (e.g., electronic laboratory data, electronic health records, Web-based systems, hospitals, and other large providers). Extracts from these systems should meet the minimum security standards outlined in this document. Electronic records should be protected through security devices such as sign-on passwords, encryption, and audit trails. External sources should be encouraged to review their procedures. Approved data transfer methods should be used when designing electronic reporting mechanisms for laboratories, providers, etc.

As possible, data with PII should be encrypted while in transit and when at rest. Ideally, data-transfers should be done over a secure data network (SDN), virtual private network (VPN) connection with certificates on both the sending and the receiving ends, or similar secure connection. At a minimum, data transfer should be performed via a secure application such as a file transfer protocol (FTP) for which certification is required on at least one end.

Electronic files being stored for future use (e.g., ancillary data and working laboratory data sets) should be encrypted until needed. If these files are needed outside the secure area, use of real-time encryption or an equivalent method of protection is recommended.

GUIDING QUESTIONS:

- » Are routine electronic transfers of data containing identifiable data done through secure methods, and are data encrypted before transfer?
- » Are encryption methods that meet Advanced Encryption Standards (AES) always used to move identifiable public health data? (See <http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf>.)
- » Are ancillary or working data sets containing PII encrypted when not in use?

STANDARD 5.3 Before transferring electronic data containing PII, ensure that the data have been encrypted with use of an encryption package that meets Advanced Encryption Standard (AES) criteria and that the data transfer has been approved by the appropriate program official or ORP. No electronic data containing identifying information should be transferred without being encrypted.

PII must be safeguarded to maintain confidentiality. The preferred method of securing data is with whole-device encryption that fulfills FIPS 140-2 standards available at <http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>. Device encryption ensures that "remnants" of any files that were opened or deleted from the device are fully secure. File encryption is adequate only when used in connection with proper physical protections. The least appropriate security measure is to rely totally on physical protection and should be used only in highly secure and restricted environments. The decision to use physical protections over an encryption solution is a risk-based decision, as these protections cannot completely remove the risk of theft or loss of sensitive data.

Confidential, individual-level public health data should be transferred via more secure electronic transfer methods, personal communication, or hard-copy mail delivery when at all possible. At a minimum, programs that choose to fax paper documents containing PII should take steps to make it as secure as possible. Partners who submit identifiable data to health departments also need to be informed of acceptable methods of transfer. Guidelines for the use of facsimile machines are included in Appendix F.

E-mailing of unencrypted personally identifiable information is not allowed. Unintended release of confidential unencrypted e-mail may result. E-mail inadvertently might be sent to an unintended recipient, and even an encrypted e-mail might result in unintended access. Health departments must also adhere to relevant "sunshine" laws regarding access to government e-mails. If public access to e-mail is required, the process of publicly contesting the release of information is not likely to play out well to the general public.

GUIDING QUESTIONS:

- » Has identifying information been removed from unencrypted data before they are transferred electronically?
- » Are encryption methods that meet AES standards always used in the transfer of identifiable data?
- » Are procedures in place for limiting faxing of confidential data? If faxes are used, what additional procedures are in place to secure the information and ensure that it is sent to the intended recipient only?
- » Do data policies address e-mailing of public health data?
- » Is identifying information always removed from data or encrypted prior to the data being sent by e-mail?

STANDARD 5.4 Use encryption software that meets federal AES standards to encrypt data with PII on all laptops and other portable devices that receive or store public health data with personal identifiers.

PII on a laptop must be encrypted and stored on an external storage device or removable hard drive. The external storage device or hard drive containing the data must be separated from the laptop and held securely when not in use. The decryption key must not be on the laptop. Portable devices without removable or external storage components must have encryption software that meets federal AES standards. All removable or external storage devices containing identifiable public health data must:

- Include only the minimum amount of information necessary to accomplish assigned tasks as determined by the designated official or ORP
- Be encrypted or stored under lock and key when not in use
- Be sanitized immediately following a given task (except for those used as back-ups)

Before any portable device containing sensitive data is removed from a secure area, the data must be encrypted. Methods used to sanitize a storage device must ensure that any data on the device cannot be retrieved by using “undelete” or data retrieval software. Hard drives, flash drives, or any other storage media of computers that once contained PII must be sanitized or physically destroyed before the computers are labeled as excess or surplus, reassigned to other staff members, or sent off-site for repair. This requirement also applies to copiers, printers, fax machines, or other equipment that contain internal storage devices.

GUIDING QUESTIONS:

- » Do policies describe when PII may be stored on external devices?
- » Are stored data appropriately encrypted?
- » Do policies describe how to sanitize or physically destroy storage devices when tasks are completed?
- » Do policies restrict use of photographic and video devices in areas containing PII, especially in areas where there are paper documents? Do policies explicitly include cell phones and PDAs with picture and video storage capability?

STANDARD 5.5 Ensure that data policies include procedures for handling incoming and outgoing facsimile transmissions. Minimize inclusion of PII in fax transmissions, and destroy hard copies and sanitize hard drives when no longer needed.

- The faxing of identifiable information is allowed but should be avoided when possible (see Appendix F for guidelines on the use of facsimile machines). The sender of a fax cannot be certain that the fax will actually be received by the person for whom it was intended. Although encrypted fax machines are available, they would be needed at both ends of an encrypted fax transmission.
- When a fax is necessary, minimize inclusion of confidential information.
- Take precautions (such as a telephone call) to ensure that the recipient is present to receive, and confirm receipt of, the fax.

GUIDING QUESTIONS:

- » Have all alternatives to faxing PII been explored?
- » Have confidential data items been kept to a minimum?
- » Have steps been taken to ensure that a person is standing by to receive and confirm receipt of a fax containing PII?
- » Have the steps in Appendix F been followed to ensure secure use of fax machines?

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Appendix A. Glossary

Access: Ability or means needed to read, write, modify, or communicate data/information.

Access control: Cohesive set of procedures designed to ensure that anyone with access to identifiable public health data:

- Is the person he or she claims to be (authentication),
- Has a verified public health need to have access to the data in question, and
- Has been authorized to access the data and is doing so from an authorized place using an authorized process

Advanced Encryption Standard (AES): This standard specifies the algorithm that can be used to protect electronic data and is issued by the National Institute of Standards and Technology (NIST). Publication 197 of the Federal Information Processing Standards (FIPS) (<http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf>) contains the specifications of the AES, which can encrypt (encipher) and decrypt (decipher) information. Encryption converts data to an unintelligible form called cipher text; decrypting the cipher text converts the data back to its original form, called plaintext. The AES algorithm is capable of using cryptographic keys of 128, 192, and 256 bits to encrypt and decrypt data in blocks of 128 bits. NIST publication 140-2 details the protection of a cryptographic module within a security system necessary to maintain the confidentiality and integrity of the information protected by the module <http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>.

Aggregated data: Information—usually summary statistics—that might be compiled from personally identifiable information (PII) but is grouped so as to preclude identification of individual persons.

Analysis dataset: Set of aggregated data created by removing identifying information (e.g., names, addresses, ZIP codes, telephone numbers) so that the data cannot be linked to a specific person but can still be used for data analysis.

Authorized access: As determined by the ORP or designee, permission granted to an authorized person to see confidential or potentially identifiable public health data, based on the public health role of the individual and their need to know.

Authorized person: Person who has been granted authorized access to confidential information to carry out assigned duties and for whom a current, signed, approved, and binding nondisclosure agreement is on file.

Breach: A departure from established policies or procedures, or a compromise, unauthorized disclosure, unauthorized acquisition, unauthorized access, or loss of control of personally identifiable information (PII). A breach is an infraction or violation of a policy, standard, obligation, or law. A breach in data security would include any unauthorized use of data, even aggregated data without names. A breach may be malicious or unintentional.

Breach of confidentiality: A breach, as defined above, that results in the release of PII to unauthorized persons (i.e., employees or members of the general public).

Breach of Personally Identifiable Information: Defined by OMB Memorandum 07-16, Safeguarding Against and Responding to the Breach of Personally Identifiable Information, to include the loss of

control, compromise, unauthorized disclosure, unauthorized acquisition, unauthorized access, or any similar term referring to situations where persons other than authorized users and for an other than authorized purpose have access or potential access to personally identifiable information, whether physical or electronic.

Confidential information: Any private information about an identifiable person who has not given consent to make that information public.

Confidentiality: Protection of personal information collected by public health organizations. The right to such protection is based on the principle that personal information should not be released without the consent of the person involved except as necessary to protect public health.

Confidentiality agreement (or nondisclosure agreement): A contract between at least two parties that outlines confidential material, knowledge, or information that the parties wish to share with one another for certain purposes, but wish to restrict access to by third parties. It is a contract through which the parties agree not to further disclose information covered by the agreement.

Data dissemination: Any mechanism by which data (typically in aggregate form) are made available to users. Includes mechanisms whereby data are released to users as well as mechanisms whereby data are made available without being released.

Data encryption standard (DES): Algorithm that encrypts and decrypts data in 64-bit blocks. Since the DES always operates on data blocks of equal size and uses both permutations and substitutions in its algorithm, it is both a block cipher and a product cipher.

Data sharing: Granting certain individuals or organizations access to data that contain personally identifiable information with the understanding that personally identifiable or potentially identifiable data cannot be re-released further unless a special data-sharing agreement governs the use and re-release of the data and is agreed upon by the receiving program and the data provider(s).

Data-sharing agreement: Mechanism by which a data requestor and data provider can define the terms of data access that can be granted to requestors.

Data release: Dissemination of data either in a public-use file or as a result of an ad hoc request which results in the data steward no longer controlling the use of the data. Data may be released in a variety of formats including, but not limited to, tables, microdata (person records), or online query systems.

Data steward: Person responsible for ensuring that data used or stored in an organization's computer systems are secure, classified appropriately, and used in accordance with organizational policies.

Disaster recovery: Use of off-site computer operations (where copies of data and information systems are stored) to recover data lost as the result of a catastrophe at the primary site of data storage or to activate information systems to replace those lost.

Disclosure: Occurs when identifiable information concerning an individual is made known to a third party. Disclosures may be *authorized* (as when a person has consented to the information being so divulged), *unauthorized* (as when information is intentionally revealed to a party not consented to by the person), or *inadvertent* (as when a tabulation or file is unintentionally made available to the public that reveals or can be used to reveal personal information).

Encryption: Manipulation or encoding of information so that only parties intended to view the information can do so. The most commonly available encryption systems involve public key and symmetric key cryptography. In general, for both public and symmetric systems, the larger the key, the more robust the protection.

Identifiable data or identifiable information: See *Personally identifiable information*.

Information security: Protection of data against unauthorized access. Effective security measures are always a balance between technology and personnel management.

Legitimate public health purpose (see also public health data use): Population-based activity or individual effort aimed primarily at the prevention of injury, disease, or premature mortality. This term also refers to the promotion of health in the community, including: 1) assessing the health needs and status of the community through public health surveillance and epidemiologic research; 2) developing public health policy; and 3) responding to public health needs and emergencies. Public health purposes can include analysis and evaluation of conditions of public health importance and evaluation of public health programs.

Management controls: Controls that include policies for operating information technology resources and for authorizing the capture, processing, storage, and transmission of various types of information. They also may include training of staff, oversight, and appropriate and vigorous response to infractions.

Need-to-know access: Access to data granted to a specific person on a case-specific basis where exceptional circumstances exist that are not stipulated in program policies. This type of access should be reserved for unusual situations and granted only after careful deliberation by the ORP.

Non-public health uses of data: Release of data that are either directly or indirectly identifying to the public; to parties involved in civil, criminal, or administrative litigation; to non-public health agencies of the federal, state, or local government; or for commercial uses.

Overall responsible party (ORP): High-ranking official who accepts overall responsibility for implementing and enforcing data security standards. This official should have the authority to make decisions about program operations that might affect programs accessing or using the data, and should serve as contacts for public health professionals regarding security and confidentiality policies and practices. The ORP is responsible for protecting data as they are collected, stored, analyzed, and released and must certify annually that all security program requirements are being met. The state's security policy must indicate the ORP(s) by name.

Personnel controls: Staff member controls, such as training, separation of duties, and background checks, that are used as part of information security and management controls.

Personal identifier: Information that allows the identity of a person to be determined with a specified degree of certainty. This could be a single piece of information or several pieces of data which, when taken together, may be used to identify an individual. Therefore, when assembling or releasing analysis data sets, it is important to determine which fields, either alone or in combination, could be used to identify a person and which controls provide an acceptable level of security.

Personally identifiable information (PII): As defined by [National Institute of Standards and Technology Special Publication 800-122, Guide to Protecting the Confidentiality of Personally Identifiable Information \(PII\)](#), available at <http://csrc.nist.gov/publications/>: "Any information about an individual maintained by an agency, including (1) any information that can be used to distinguish or trace an individual's identity, such as name, social security number, date and place of birth, mother's maiden name, or biometric records; and (2) any other information that is linked or linkable to an individual, such as medical, educational, financial, and employment information."

Physical access controls: Physical barriers such as locked doors, sealed windows, password-protected keyboards, entry logs, guards, etc., used to help limit access to confidential information.

Public health surveillance: The ongoing, systematic collection, management, analysis, and interpretation of health-related data followed by their dissemination to those who need to know in order to: 1) monitor populations to detect unusual instances or patterns of disease, toxic exposure, or injury; 2) act to prevent or control these threats; and 3) intervene to promote and improve health. The term applies to both electronic and paper-based systems.

Public health data use (see also legitimate public health purpose): Includes the variety of ways public health data may be used to achieve public health goals/purposes. A principal public health data use at state and federal levels is for epidemiologic monitoring of trends in disease incidence and outcomes. This includes collection of data and evaluation of the collection system, as well as the dissemination of aggregate trends in incidence and prevalence by demographic, geographic, and behavioral risk characteristics to assist the formulation of public health policy and direct intervention programs. Public health data uses may also include data used to initiate or provide treatment and prevention services.

Records retention policy: A policy that stipulates how long paper and electronic records should be kept before they can be archived or destroyed.

Role-based access: Access to specific information or data granted on the basis of a person's job status or authority. This control mechanism protects data and system integrity by preventing access to unauthorized applications. Granting access based on roles within an organization, rather than by individual users, simplifies an organization's security policy and procedures and helps avoid granting need-to-know access to individuals.

Secure(d) area: Work space with physical access controls in which confidential data are kept and/or used with access granted only to authorized persons. The configuration of a secure(d) area depends on resource and other program considerations (e.g., availability of physical space, locks, file cabinets, walls, doors, and other barriers.)

Security: Protection of public health data and information systems to prevent unauthorized release of identifying information and accidental loss of data or damage to the systems. Security measures include measures to detect, document, and counter threats to data confidentiality or the integrity of data systems.

Syndemic: Synergist interaction of two or more conditions that contribute to an excess burden of disease in a population.

Virtual private network (VPN): Network of computers that uses encryption to scramble all data sent through the internet—making the network “virtually” private.

Appendix B.

Checklists for Assessment of Data Security and Confidentiality Protections

INITIAL ASSESSMENT

This checklist can be used to guide the initial assessment of a program's compliance with the Standards for Data Security and Confidentiality. This will be particularly useful for state and local public health programs that currently lack data security and confidentiality policies and procedures.

As indicated previously in this document, the initial assessment should be conducted by a team led by the ORP(s). The team should include:

- Program managers, directors, or equivalent leaders from participating programs
- Other representatives of participating programs
- Staff members with technical expertise in data security
- IT staff

The initial assessment should include the following steps:

- Identify key individuals and designate an ORP
- Review current security-related materials (e.g., written policies and procedures)
- Review relevant state and local laws that might affect data security and confidentiality policies
- Identify any policies or procedures that are either barriers to information sharing or sources of data security weaknesses
- Consult standard operating procedures (SOPs) from other programs that might be useful sources of ideas or suggestions for procedural changes
- Review any history of data security breaches or near-breaches, and associated lessons learned
- Assess physical security and define the secure area
- Assess electronic security protections and methods of data transfer and storage
- Assess factors related to security of information in the field, as appropriate
- Assess training needs

CONDUCTING AN INITIAL ASSESSMENT: STEPS AND GUIDING QUESTIONS

Identify key individuals and designate an ORP	<p>Have key individuals, including program managers, directors, persons responsible for information and system security, and appropriate technical staff members, been identified?</p> <p>Has an ORP(s) with ultimate decision-making authority and responsibility for reconciling differences in policies and procedures across programs been identified?</p>
Review current policies and gather resources	<p>Have relevant policies, data-sharing agreements, and standard operating procedures been compiled and reviewed?</p> <p>Have relevant laws, rules, and regulations been considered?</p>
Identify weaknesses and barriers	<p>Have areas of weakness and specific topics that need additional clarification been identified?</p> <p>Have barriers to data sharing been identified?</p> <p>Have potential solutions to these barriers, including possible policy revisions, been noted?</p>
Assess physical security and define the secure area	<p>What is the work-space configuration?</p> <p>What is the path of public health data from collection and entry into the program's physical space through data entry and storage?</p> <p>What happens to case report forms received from providers? How are case report forms completed by health department staff handled? Is information obtained by phone or other electronic format? If so, how are hard copies or electronic media physically secured? Are electronic devices used, such as PDAs or laptops? If so, how are these physically secured?</p> <p>How is the area that houses identifiable data secured?</p> <p>Who has access to the physical space, who needs access, and for what purpose?</p>
Assess electronic security, protections, and methods of data transfer and storage	<p>Who or what roles need access to identifiable data? At what stage is their access required?</p> <p>Who needs access to electronic databases with identifiable data?</p> <p>Who needs access only to de-identified or analysis data sets?</p> <p>Who teleworks and what level of access do they need? Are electronic protections in place for remote access?</p> <p>Which individuals must take identifiable information in the field or outside of the secure physical area or health department? How is that information brought back into the office and what happens when it arrives?</p> <p>Does field work involve information on paper or electronic data on laptops or other storage devices?</p> <p>What electronic protections are in place during data transfer? Is encryption used? If so, when are data encrypted? Are data encrypted while at rest?</p> <p>Are data ever transported between locations across secured boundaries such as a secure data network (SDN), virtual private network, or Secure File Transfer Protocol (SFTP)?</p>
Assess training needs	<p>Do all programs involved have specific security and confidentiality training? How often is it conducted and who does it?</p> <p>What additional training will be required if policies are modified?</p> <p>Do other types of employees need to be trained (e.g. mail room staff, maintenance and cleaning staff, security staff, IT staff [in-house and contracted services])?</p> <p>How often are training materials updated?</p>

Periodic Assessment Checklist

This checklist can be used to guide the periodic assessment of a program's compliance with the Standards for Data Security and Confidentiality.

For the answer to be "yes" to a question with multiple parts, all boxes must be checked. For each "No" response, provide additional information describing how the program intends to achieve compliance with that standard.

Name of Program being assessed

Name of person assessing the program

1.0 PROGRAM POLICIES AND RESPONSIBILITIES

STANDARD 1.1

In your program, how are staff members who are authorized to access HIV/VH/STD/TB information or data made aware of their data confidentiality and security responsibilities?

Are the following points addressed in your policies and agreements?

-
- Yes No Are staff provided training on security policies and procedures and where to find resources?
-
- Yes No Does the program have written data security and confidentiality policies and procedures?
-
- Yes No Are written policies and procedures reviewed at least annually and revised as needed?
-
- Yes No Are data security policies readily accessible to all staff members who have access to confidential, individual-level data?
- Where are the policies located? _____
-

STANDARD 1.2

Yes No In your program, is there a policy that assigns responsibilities and designates an ORP for the security of the data that is stored in various data systems?

Yes No Does the ORP have sufficient authority to make modifications to policies and procedures and ensure that the standards are met?

STANDARD 1.3

Yes No Does your program have a policy that defines the roles and access level for all persons with authorized access?

Yes No Does your program have a policy that describes which standard procedures or methods will be used when accessing HIV/VH/STD/TB information or other personally identifiable data?

STANDARD 1.4

Yes No Does the program have a written policy that describes the methods for ongoing review of technological aspects of security practices to ensure that data remain secure in light of evolving technologies?

STANDARD 1.5

Yes No Are written procedures in place to respond to breaches in procedures and breaches in confidentiality?

Where are those procedures stored? _____

Yes No Is the chain of communication and notification of appropriate individuals outlined in the data policy?

Yes No Are all breaches of protocol or procedures, regardless of whether personal information was released, investigated immediately to determine causes and implement remedies?

Yes No Are all breaches of confidentiality (i.e., a security infraction that results in the release of private information with or without harm to one or more persons) reported immediately to the ORP?

Yes No Do procedures include a mechanism for consulting with appropriate legal counsel to determine whether a breach warrants a report to law enforcement agencies?

Yes No If warranted, are law enforcement agencies contacted when a breach occurs?

STANDARD 1.6

- Yes No Are staff trained on the program's definitions of breaches in procedures and breaches in confidentiality?
- Yes No Are staff trained on ways to protect keys, use passwords, and codes that would allow access to confidential information or data?
- Yes No Are staff trained on policies and procedures that describe how staff can protect program software from computer viruses and computer hardware from damage due to extreme heat or cold?
- Yes No Have all persons authorized to access individual-level information been trained on the organization's information security policies and procedures?
- Yes No Is every staff member, information technology (IT) staff member, and contractor who may need access to individual-level information or data required to attend security training annually?
- Yes No Is the date of the training or test documented in the employee's personnel file?

STANDARD 1.7

- Yes No Do all authorized staff members in your program sign a confidentiality agreement annually?
- Yes No Do all newly hired staff members sign a confidentiality agreement before they are given authorization to access individual-level information and data?

STANDARD 1.8

- Yes No Do policies state that staff are personally responsible for protecting their own computer workstation, laptop computer, or other devices associated with confidential public health information or data?
- Yes No Are staff trained on ways to protect keys, use passwords, and codes that would allow access to confidential information or data?

STANDARD 1.9

- Yes No Does your program certify annually that all program standards are met?

2.0 DATA COLLECTION AND USE

STANDARD 2.1

Yes No

When public health data are shared or used, are the intended public health purposes and limits of how the data will be used adequately described?

STANDARD 2.2

Yes No

When data are collected or shared, do they contain only the minimum information necessary to achieve the stated public health purpose?

STANDARD 2.3

Does your program explore alternatives to using identifiable data before sharing data, such as using anonymized or coded data?

Yes No

What alternatives are currently in use in your program? _____

STANDARD 2.4

Yes No

Does your program have procedures in place to determine whether a proposed use of identifiable public health data constitutes research requiring IRB review?

3.0 DATA SHARING AND RELEASE

STANDARD 3.1

Yes No

In your program, is access to HIV/VH/STD/TB information and data for any purposes unrelated to public health (e.g., litigation, discovery, or court order) only granted to the extent required by law?

What non-public health use of the data are required or allowed by law?

STANDARD 3.2

When a proposed sharing of identifiable data is not covered by existing policies, does your program assess risks and benefits before making a decision to share data?

Yes No

How are these risks assessed? _____

STANDARD 3.3

When sharing personally identifiable HIV/VH/STD/TB information and/or data with other public health programs (i.e., those programs outside the primary program responsible for collecting and storing the data), is access to this information and/or data limited to those for whom the ORP:

Yes No

-
- has weighed the benefits and risks of allowing access; and
 - can verify that the level of security established is equivalent to these standards?
-

STANDARD 3.4

Is access to confidential HIV/VH/STD/TB information and data by personnel outside the HIV/VH/STD/TB programs:

Yes No

-
- limited to those authorized based on an expressed and justifiable public health need?; and
 - arranged in a manner that does not compromise or impede public health activities?; and
 - carefully managed so as to not affect the public perception of confidentiality of the public health data collection activity and approved by the ORP?
-

Before allowing access to any HIV/VH/STD/TB data or information containing names for research or other purposes (e.g., for other than routine prevention program purposes), does your program require that the requester:

Yes No

-
- demonstrate need for the names?; and
 - obtain institutional review board (IRB) approval (if it has been determined to be necessary)?; and
 - sign a confidentiality agreement?
-

STANDARD 3.5

Yes No

Does your program have written procedures to review data releases that are not covered under the standing data release policy?

Yes No

If not, does your program have unwritten policy to review data releases that are not covered under the standing data release policy?

Describe briefly those procedures or policies: _____

STANDARD 3.6

Yes No

Does your program routinely distribute nonidentifiable summary data to stakeholders?

STANDARD 3.7

Yes No

Does your program assess data for quality before disseminated?

STANDARD 3.8

Yes No

Does the program have a data-release policy that defines access to, and use of, individual-level information?

Yes No

Does the data-release policy incorporate provisions to protect against public access to raw data or data tables that include small denominator populations that could be indirectly identifying information?

4.0 PHYSICAL SECURITY

STANDARD 4.1

Are workspaces and paper copies for persons working with confidential, individual-level information located within a secure, locked area?

- Yes No
- Are sensitive documents stored in cabinets?
 - Are the cabinets locked?
 - Are cabinets located in an area to which there is no access by unauthorized employees?
 - Are cabinets located in an area to which there is no public access?

STANDARD 4.2

- Yes No
- Do program staff members shred documents containing confidential information with a cross-cutting shredder before disposing of them?

STANDARD 4.3

- Yes No
- Does your program have a written policy that outlines procedures for handling paper documents which could contain confidential information that are mailed to, or from, the program?

- Yes No
- Do staff members in your program ensure that the amount and sensitivity of information contained in any piece of correspondence remains minimal?

STANDARD 4.4

- Yes No
- Is access to all secured areas where confidential, individual-level HIV/VH/STD/TB information and data are stored limited to persons who are authorized within policies and procedures (this includes access by cleaning or maintenance staff)?

STANDARD 4.5

Yes No Do policies include procedures for securing documents containing PII when they cannot be returned to a secure work site by the close of business?

Yes No Do policies outline specific reasons, permissions and physical security procedures for using, transporting and protecting documents containing PII in a vehicle or personal residence?

Yes No If no such procedure exists, is approval obtained from the program manager?

STANDARD 4.6

When identifying information is taken from secured areas and included in on-line lists or supporting notes, in either electronic or hard-copy format:

Yes No is it assured that the documents contain only the minimum amount of information necessary for completing a given task?, and
 is the information encrypted?, and
 is it coded to disguise information that could be easily associated with individuals?

Yes No Do staff members in your program ensure that terms easily associated with HIV/VH/STD/TB do not appear anywhere in the context of data transmissions, including sender and recipient addresses and labels?

5.0 ELECTRONIC DATA SECURITY

STANDARD 5.1

Yes No In your program, are HIV/VH/STD/TB analysis data sets stored securely using protective software (i.e., software that controls the storage, removal, and use of the data)?

Yes No Are personal identifiers removed from HIV/VH/STD/TB analysis data sets whenever possible?

STANDARD 5.2

In your program, do transfers of HIV/VH/STD/TB data and information and methods for data collection:

- Yes No have the approval of the ORP?, and
 incorporate the use of access controls?, and
 encrypt individual-level information and data before electronic transfer?
-

- Yes No When possible, are databases and files with individual-level data encrypted when not in use?
-

STANDARD 5.3

- Yes No Does your program have a policy that outlines procedures for handling electronic information and data (including, but not limited to, e-mail and fax transmissions) which may contain confidential information that are sent electronically to or from the program?
-

When individual-level HIV/VH/STD/TB information or data are electronically transmitted and the transmission does not incorporate the use of an encryption package meeting the encryption standards of the National Institute of Standards and Technology and approved by the ORP, are the following conditions met?

- Yes No The transmission does not contain identifying information.
 Terms easily associated with HIV/VH/STD/TB do not appear anywhere in the context of the transmission, including the sender and recipient address and label.
-

STANDARD 5.4

For all laptop computers and other portable devices (e.g., personal digital assistants [PDAs], other handheld devices, and tablet personal computers [tablet PCs]), which receive or store HIV/VH/STD/TB information or data with personal identifiers, are all the following steps taken to ensure the security of the data?

Yes No

- The devices have encryption software that meets federal standards.
- Program information with identifiers is encrypted and stored on an external storage device or on the laptop's removable hard drive.
- External storage devices or hard drives containing the information are separated from the laptop and held securely when not in use.
- The decryption key is kept some place other than on the device.

Yes No

Do the methods employed for sanitizing a storage device ensure that the information cannot be retrieved using "undelete" or other data retrieval software?

Yes No

Does the program have policies or procedures to ensure that all removable or external storage devices containing HIV/VH/STD/TB information or data that contain personal identifiers:

- include only the minimum amount of information necessary to accomplish assigned tasks as determined by the program manager, and
- are encrypted or stored under lock and key when not in use, and
- are sanitized immediately after a given task (excludes devices used for backups)?

Where are these policies or procedures stored? _____

Yes No

Are hard drives that contain identifying information sanitized or destroyed before the computers are labeled as excess or surplus, reassigned to nonprogram staff members, or sent off site for repair?

STANDARD 5.5

Yes No

Does your program have policies for handling incoming and outgoing facsimile transmissions to minimize risk of inadvertent disclosure of PII?

Appendix C.

Data Sharing Scenario

The following scenario is an example of data sharing between HIV and STD programs. In this scenario, a new case patient with HIV infection is identified through HIV surveillance and is offered partner services by the STD program. This scenario will not apply to all programs, but rather highlights one method for data sharing.

State and local health departments are notified of previously unknown patients with HIV infection by public or private laboratories that submit electronic or hard-copy laboratory and/or case reports indicative of HIV infection. The reports may be sent to a state health department, where HIV and STD staff may assign the newly identified patient to a local health department for partner services. Sometimes a laboratory will send the report directly to a local health department, and the staff there may immediately begin the process of offering partner services.

This example illustrates the information flow when a state health department receives an electronic laboratory report of HIV infection and shares that information with the local health department staff for partner services.

At the Home State Health Department, the STD program conducts partner services for both HIV and STD. However, the HIV surveillance unit operates separately from the STD program, thus requiring data sharing between programs. As an initial step, Jim, the HIV surveillance coordinator at the Home State Health Department, receives an electronic laboratory report for what appears to be a new case patient with HIV infection. He conducts a search through eHARS and confirms that this patient has not been previously reported.

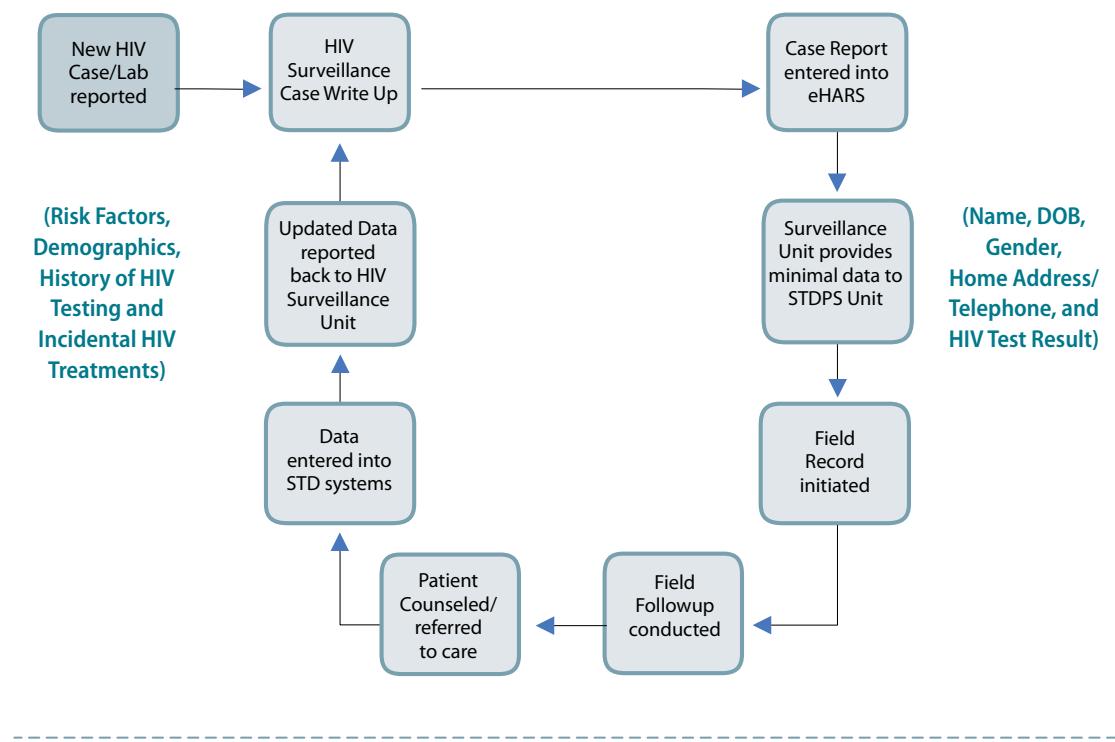
When Jim enters the HIV case report information into eHARS, he notes that there is incomplete or missing information on the laboratory report. Referring to the Home State Data Sharing Plan, Jim provides the minimal information that he has on this case to the State Health Department STD program which forwards it to the Field Supervisor in the STD program at the Small City Health Department which is in the jurisdiction in which the patient resides. Jim sends a hard copy of the HIV case report form to the STD program with the patient's name, date of birth, gender, home address and telephone number, and current HIV test information. He also includes a request to obtain missing demographic, risk factor, HIV testing, and HIV treatment information from the patient during the partner services investigation.

The state health department HIV surveillance unit provided enough information to initiate a field record which is then assigned to a team of Disease Intervention Specialists (DISs). Jane, a DIS in the local health department's STD program, receives the HIV field record from her First-Line Supervisor (FLS) and conducts a record search to determine whether the patient has been previously notified of their HIV status, received Partner Services, or been reported to the health department for any other STDs. Jane determines that this individual has not had any of these encounters with the health department. Jane goes to the field to locate, notify, and interview the client. Jane locates and interviews the client and provides counseling and Partner Services. Jane makes sure to document any missing demographic and risk information to include in the case records and to share the missing information with HIV surveillance.

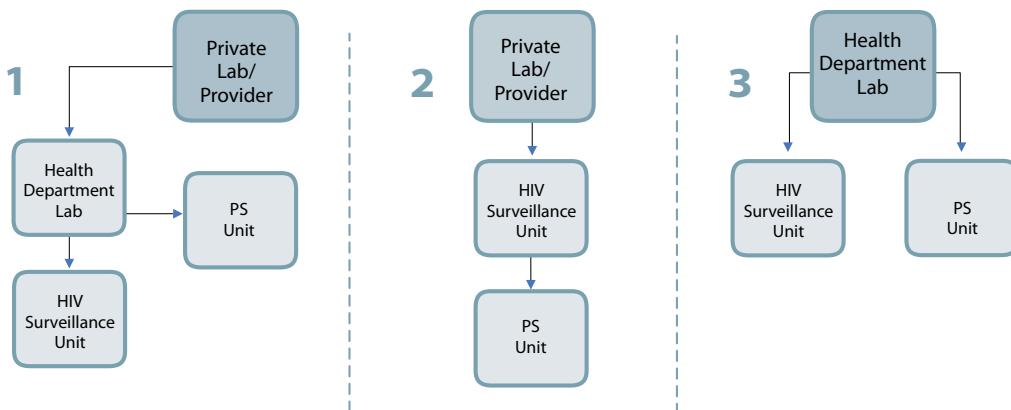
During the investigation, Jane also offers the client STD testing and referral for medical management of HIV infection, which typically includes TB screening and may include Hepatitis B vaccination or Hepatitis C screening. Upon returning to the local health department, Jane completes the case documentation and enters the data into the electronic STD data management and reporting system. Jane shares the results of the field investigation with the STD Field Supervisor and provides documentation of the missing HIV information to the HIV surveillance unit, according to instructions in the Home State Health Department's Data Sharing Plan.

The following flow diagram outlines the above scenario.

HIV/AIDS PARTNER SERVICES (PS) DATA FLOW CHART



Possible Methods of Reporting



Appendix D.

Sample Certification Statement

CERTIFICATION OF COMPLIANCE WITH THE "SECURITY AND CONFIDENTIALITY STANDARDS FOR PUBLIC HEALTH DATA AND DESIGNATION OF OVERALL RESPONSIBLE PARTY (ORP)"

By signing and submitting this form, we certify our compliance with "NCHHSTP Security and Confidentiality Guidelines." We acknowledge that all standards included in the NCHHSTP Security and Confidentiality Guidelines have been implemented unless otherwise justified in an attachment to this statement. We agree to apply the standards to all local/state staff and contractors funded through NCHHSTP that have access to or maintain confidential public health data. We ensure all sites where applicable public health data are maintained are informed about the standards. Documentation of required local data policies and procedures is on file with the ORP and available upon request.

Name(s), occupation, and organizational affiliation of the proposed ORP.

NAME	TITLE	AFFILIATION

Applicant/Grantee Name

Grant/Cooperative Agreement Number

Signature: Principle Investigator

Signature: Authorized Business Official

Date

Date

Appendix E.

Suggested Outline for a Policy on Data Confidentiality, Security, Sharing, and Use

The following is an outline of suggested components of a policy on data confidentiality, security, sharing and use that can be adapted to local needs.

- Scope
 - » Relevant data
 - » Purpose of the data collection(s)
 - » Terms of use and data sharing
 - » Ten guiding principles for data security, confidentiality, sharing, and use
 - » Reference to each of the standards for data security, confidentiality, sharing and use
- Access and roles
 - » Level of access to confidential surveillance data by position (including staff who use the data daily as well as IT/data management staff)
 - » Roles of persons who have/need access to data
- Overall responsible party (ORP)
- Data release
 - » Rules governing release of individual and aggregate data (with reference to a separate data release policy document, as indicated)
 - » Methods by which information will be disseminated and shared (including circumstances requiring a data-release agreement)
- Data-sharing agreements/plans
 - » Procedures for implementing data-sharing agreements/plans, as indicated
 - » IRB procedures, if IRB approval required
- Routine communications with confidential, identifiable data
 - » Procedures for communications requiring the sharing of confidential, identifiable data with other project areas, both intra- and interstate and providers, laboratories, and other internal and external entities
- Physical data security
 - » Procedures to ensure a secure physical environment (e.g., access to rooms, security screens, backup storage, file cabinets, storage of hard copies, use of shipping companies, opening of mail, and removal of information from secure areas)

- Electronic data security
 - » Procedures to ensure a secure electronic environment (e.g., transfer and storage of electronic data, data backups, use of different media devices [PDAs, tablets, laptops, and thumb drives], and encryption requirements)
- Transmission of data
 - » Procedures on transmission of data via physical mail, fax, e-mail, and other emerging electronic/wireless technologies
- Investigation of suspected breaches
 - » Processes, tools, and forms to investigate and document suspected breaches of protocol and/or confidentiality
 - » Chain of information/action/response
- Training
 - » Requirements for annual, standard training on data security confidentiality policies and procedures, including a review of the written documents
 - » Requirements for documentation of training
- Nondisclosure or confidentiality agreements
- Glossary

Appendix F.

Guidelines for the Use of Facsimile Machines*

Although facsimile (fax) equipment and software can enhance the quality of health care by facilitating rapid transmission of health information, this same mode of transmission opens up the possibility that information will be misdirected or intercepted by persons for whom access is not intended or authorized. In recent years, numerous reports have described events wherein patient health records were inadvertently faxed to a wrong location (e.g., bank or retail store) rather than the intended recipient. The following recommendations will help minimize the risks associated with use of facsimile machines.

- Establish fax policies and procedures based on federal guidelines, state laws and regulations, and consultation with legal counsel, as needed.
- Take reasonable steps to ensure that the fax transmission is sent to the intended destination. As possible, pre-program and periodically audit and test destination numbers to eliminate errors in transmission from misdialing and outdated fax numbers. Periodically, remind frequent recipients of PII to notify the program of any changes in fax number. Train staff to double check the recipient's fax number before pressing the 'send' key.
- Provide education and training to staff on the program's fax policies and procedures. This includes educating private providers and laboratories that report information to public health programs. Take reasonable operational safeguards to alert staff of faxing procedures. For example, affix brightly colored stickers to fax machines reminding staff of key fax policies (e.g., need for a cover sheet; verification of recipient's fax number; and procedures to implement if an incoming fax has been received in error).
- Require all fax communications be sent with a cover sheet that includes name and contact information of the sender and the recipient, confidentiality disclaimer statement, and instructions on what to do if the document is received in error (see Sample Confidentiality Disclaimer below).
- If a fax transmission fails to reach the recipient, check the internal logging system of the fax machine to obtain the number to which the transmission was sent. If the sender becomes aware that a fax was misdirected, contact the receiver and ask that the material be returned or destroyed. Investigate misdirected faxes as a risk management occurrence or security incident, inform the ORP, and log the incident for remediation/mitigation.
- Locate fax machines in secure areas.
- Ensure that data security policies include procedures for maintaining and disposing of paper fax transmissions.

Sample Confidentiality Disclaimer

The documents accompanying this fax transmission contain health information that is legally privileged. This information is intended only for the use of the individual or entity named above. The authorized recipient of this information is prohibited from disclosing this information to any other party unless required to do so by law or regulation and is required to destroy the information after its stated need has been fulfilled. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or action taken in reliance on the contents of these documents is strictly prohibited. If you have received this information in error, please notify the sender immediately and arrange for the return or destruction of these documents.

*Based on "Facsimile Transmission of Health Information"

http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_031811.hcsp?dDocName=bok1_031811

Appendix G.

Ensuring Data Security in Nontraditional Work Settings

Electronic Data Security

The following restrictions must be followed when dealing with personally identifiable information (PII) in a telework environment.

- The media on the device being used to access PII must be fully encrypted; encryption of individual files is not adequate.
- Personal computers or personal electronic media should not be used for data storage. Data-storage devices must be issued by the agency. On an agency-issued device, internet service provider (ISP) or personal network equipment may be used for internet connectivity.
- Agency-issued computers must be configured to prevent installation of software by persons other than agency IT staff.
- The agency must have properly configured firewalls installed on computers to be used outside of the agency's protective boundaries.
- PII should never reside on a device that is ever connected to the internet either directly or indirectly outside the agency firewall.
- PII may be analyzed if technology is used to access and analyze remotely with only displays of data and results being shown on the device. Citrix applications are an example of this technology.

Telework

Teleworking is a complex issue, particularly because most of the work performed by surveillance and field staff involves patient identifiers or potential identifiers. Whenever possible, work with surveillance data should be performed at the worksite, with recommended physical, electronic, and procedural protections. Even though IT staff may make it possible to have the same access at home that is available in the office, that does not mean that the access or home workplace is just as secure.

Nonetheless, current workplace trends are moving strongly toward teleworking, even for individuals working with PII. Therefore, programs should coordinate with IT and their own staff to ensure that home access meets the same confidentiality and security protections as the office work space. The work environment of the teleworker should be subject to an audit to verify minimum physical security protections.

Recommended characteristics of a telework location include:

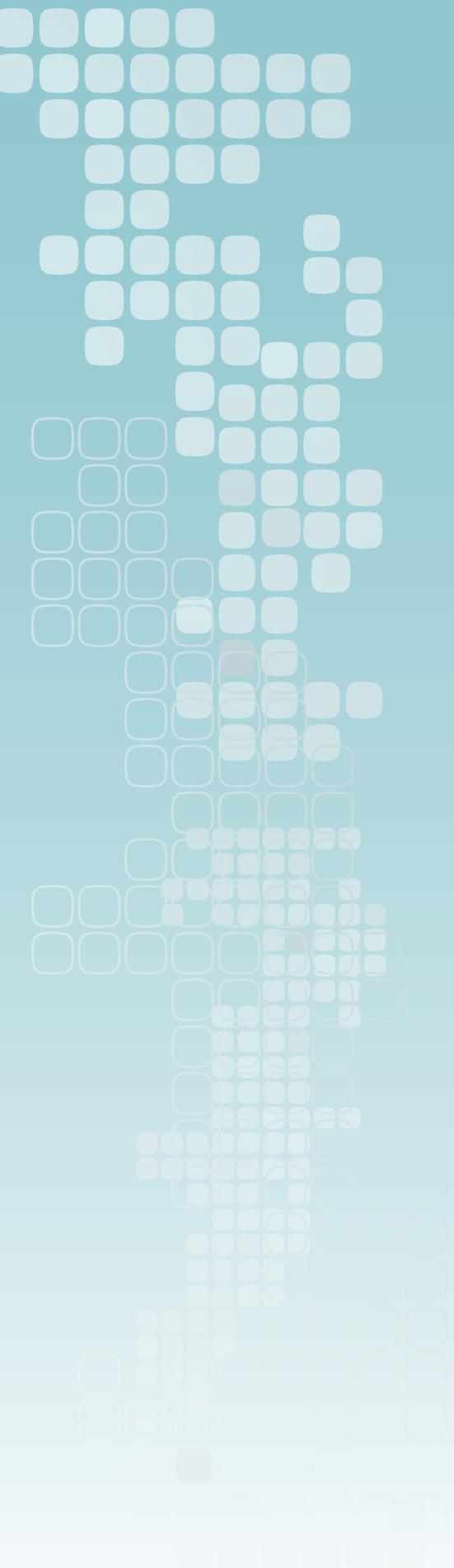
- Limited access (e.g., a locking door) in a private area. In a home, this means a dedicated room with no access by unauthorized persons. The ability to observe PII on device displays must be restricted to only the teleworker.
- No hard-copy storage of client-identified data. If hard copies of any documents must be stored in a telework location, they should be stored in double-locked file cabinets, large and heavy enough to render them immobile. Hard copies of documents containing PII must be shredded using a cross-cut shredder and should never be left in an unsecured area.
- The work space must be configured to allow confidential conversations.
 - » PII stored and transmitted via a computer with encryption software at least equal to the currently accepted level of encryption used in the regular workplace
 - » If the computer is connected to the internet with Wi-Fi, access to the Wi-Fi connection must be secure.

Field/Clinic work

Many public health workers handle PII in the field while pursuing public health activities. Traditionally, most of that data has been in hard copy, but the evolving technology of PDAs, electronic tablets, and notebook computers is driving many programs away from traditional paper data to e-data stored on portable devices. Programs must therefore plan for migration from paper-oriented to electronic systems that meet established and evolving electronic and procedural security standards. Forward-looking confidentiality and security protocols should include provisions for phones, PDAs, tablets, and workbooks that take client-identified data to the field and allow for real-time updates, reporting, and data entry from field sites as well as by medical staff in examination rooms. These protocols should also provide accountability measures to ensure that staff members employ this secured, confidential data in appropriate locations while in the field. Programs may review Guidelines on Cell Phone and PDA Security, National Institute of Standards and Technology Special Publication 800-124, available at <http://csrc.nist.gov/publications/>, when developing policies.

Remote work

In the case of emergency or outbreak responses, staff may be detailed to work sites that have not been prepared to meet data security standards. The host area and detailed staff should ensure that the work site is made as secure as reasonably possible in terms of physical, electronic, and procedural security.





National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention



CS227952-A

National HIV Surveillance System (NHSS)

Attachment 9.
Project Determination



REQUEST FOR NCHHSTP PROJECT DETERMINATION & APPROVAL

NCHHSTP ADS/ADLS Office on behalf of CDC (New, Continuation, or Amendment)

This form should be used to request NCHHSTP/OD/ADS or ADLS office review and approval on behalf of CDC of a new, continued, or amended project for those projects for which NCHHSTP staff/employees, branches, divisions, and center/OD/ADS or ADLS office are responsible.

Any NCHHSTP activity that meets the definition of a project (see the following section) and represents one of the four project categories must be approved by the respective NCHHSTP branch and division and by the NCHHSTP/OD/ADS or ADLS office. Approval by the NCHHSTP ADS or ADLS office (nchstphs@cdc.gov) of these projects indicates approval by CDC. This review and approval process complies with obligations for adherence of projects to federal regulations, state laws, ethics guidelines, CDC policies, and publication requirements.

For research that involves identifiable human subjects in which CDC/NCHHSTP is engaged, use CDC Human Research Protection Office forms and submit them to CDC Human Research Protection Office through the NCHHSTP ADS human subjects email box after approval at the branch and division levels.

RELEVANT INFORMATION

What is a project?

A project is defined as a time-limited activity that is funded for a specific period of time, an activity with specified funds for a limited time, or as a limited time responsibility by specific CDC employees or staff, including projects that might be ongoing or continuous for an extended period. A project has defined objectives, tasks (e.g., essential public health services), dedicated resources, and is funded for a specified time. NCHHSTP reviews and approves projects for the four project categories listed on this form. Every project officer, project team and staff, NCHHSTP branch, and NCHHSTP division or office is responsible for submitting this form for each project and for obtaining NCHHSTP OD/ADS or ADLS approval on behalf of CDC before project initiation, continuation, or amendment. Such programs as surveillance are approved and funded as specific projects for certain periods.

What is research?

The federal regulations and CDC/OD/ADS office define **research** as a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research, regardless if these activities are conducted or supported under a program that is not considered research for other purposes. For example, demonstration and service programs sometimes include research activities.

What is a human subject?

A **human subject** is a living individual about whom an investigator (whether professional or student) conducting research obtains

1. data through intervention or interaction with the individual or
2. identifiable private information.

What is an intervention?

Intervention includes both physical procedures by which data are gathered (e.g., venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject.

What is private information?

Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is occurring and information that has been provided for specific purposes by an individual and that the individual can reasonably expect will not be made public (e.g., a medical record). Private information identifies individuals (i.e., the identity of the person is or might be readily ascertained by the investigator or associated with the information) for the information to constitute research involving human subjects.

What does being “engaged” mean?

An institution becomes “*engaged*” in human subjects research when its employees or agents intervene or interact with living individuals for research purposes, or obtains individually identifiable private information for research purposes. An institution is automatically considered to be engaged in human subjects research whenever it receives funding or resources (e.g., a direct award) to support such research. In such cases, the awardee institution has the ultimate responsibility for protecting human subjects under the award.

What is surveillance?

CDC defines **surveillance** as “the ongoing, systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know. The final link of the surveillance chain is the application of these data to prevention and control. A surveillance system includes a functional capacity for data collection, analysis, and dissemination linked to public health programs.”

What is program evaluation?

Program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, or inform or guide decisions about future program development. Program evaluation should not be confused with *treatment efficacy*, which measures how well a treatment achieves its goals and that can be considered research.

Sources (links)

- <http://intranet.cdc.gov/od/oads/osi/hrpo/>
- <http://www.hhs.gov/ohrp/index.html>

PROJECT REQUEST

Project Stage

Choose one by selecting a checkbox:

New: Fill out entire form, even if a protocol is attached (approval is for work by CDC/NCHHSTP employees).

Continuation: For projects expected to continue beyond NCHHSTP approved date; include brief description of changes and attach clean and marked copies of approved determination (approval is for continued work by CDC/NCHHSTP employees).

Amendment: Include brief description of changes and attach relevant documentation and a copy of approved project (approval is for continued work by CDC/NCHHSTP employees).

Project Information:

Project Title: Integrated HIV Surveillance and Prevention Programs for Health Departments (Component A)

NCHHSTP Project Number: PS18-1802

Division: DHAP

Project Location/Country(ies):

Telephone: (404) 639-2006

60 jurisdictions throughout the U.S.

Project Dates:

Start 01/01/2018

End 12/31/2022

CDC Project Officer or CDC Co-Leads:

Laboratory Branch Submission:

If applicable, select the checkbox:

Project Categories

Select the corresponding checkbox to choose the category and subcategory.

- I. Activity is not human subject research. The primary intent of the project is public health practice or a disease control activity.
 - A. Epidemic or endemic disease control activity; collected data directly relate to disease control. If this project is an Epi-AID; provide the Epi-AID number and documentation of the request for assistance, per division policy. Epi-AID no.
 - B. Routine disease surveillance activity; data will be used for disease control program or policy purposes.
 - C. Program evaluation activity; data will be used primarily for that purpose.
 - D. Post-marketing surveillance of effectiveness or adverse effects of a new regimen, drug, vaccine, or device.
 - E. Laboratory proficiency testing.

▪ **II. Activity is not human subjects research.** The primary intent is public health program activities.

- A. Public health program activity (e.g., service delivery; health education programs; social marketing campaigns; program monitoring; electronic database construction or support; development of patient registries; needs assessments; and demonstration projects to assess organizational needs, management, and human resource requirements for implementation).
- B. Activity is purely administrative (e.g., purchase orders or contracts for services or equipment).

III. Activity is research but does NOT involve identifiable human subjects.

- A. Activity is research involving collection or analysis of data about health facilities or other organizations or units (i.e., not individual persons.)
- B. Activity is research involving data or specimens from deceased persons.
- C. Activity is research using unlinked or anonymous data or specimens: ALL (1–4) below are required:
 1. No one has contact with human subjects in this project; and
 2. Data or specimens are or were collected for another purpose; and
 3. No extra data or specimens are or were collected for this project; and
 4. Identifying information was (one of the following boxes must be checked)
 - a. not obtained;
 - b. removed before this submission, or before CDC receipt, so that data cannot be linked or re-linked with identifiable human subjects; or
 - c. protected through an agreement (i.e., CDC investigators and the holder of the key linking the data to identifiable human subjects enter into an agreement prohibiting the release of the key to the investigators under any circumstances. A copy of the agreement must be attached.)

IV. Activity is research involving human subjects, but CDC involvement does not constitute “engagement in human subject research.” Select only one option by checking the box: A indicates the project has current funding; B or C indicates no current funding is applicable.

- A. This project is funded under a grant, cooperative agreement, or contract award mechanism. ALL of the following 3 elements are required:
- 1. CDC staff will not intervene or interact with living individuals for research purposes.
 - 2. CDC staff will not obtain individually identifiable private information.
 - 3. Supported institution(s) must have a Federalwide Assurance (FWA), and the project must be reviewed and approved by a registered IRB or an institutional office linked to the supported institution's FWA.*

Supported institution of primary investigator or co-Investigators/entity name:*

Supported institution/entity FWA Number:*

FWA expiration date:*

Expiration date of IRB approval:*

***Attach copy of IRB approval letter(s) supporting project review and approval.**

B. CDC staff provide technical support that does not involve possession or analysis of data or interaction with participants from whom data are being collected (no current CDC funding).

C. CDC staff are involved only in manuscript writing for a project that has closed. For the project, CDC staff did not interact with participants and were not involved with data collection (no current CDC funding).

Project Description

Participating project staff must complete all 18 elements of this section.

This is a required description from CDC employees or staff for review and approval of a project plan or proposal (or for changes) for projects conducted by CDC or in which CDC is involved. All 18 elements are required to standardize the review and approval process across NCHHSTP, document that all 18 elements have been addressed, expedite review and approval by the NCHHSTP ADS or ADLS office, and minimize CDC/OD/ADS office audit requests for additional information. A protocol may be attached to this form, but it does not eliminate the requirement to complete all 18 elements.

PROJECT TITLE: Integrated HIV Surveillance and Prevention Programs for Health Departments (Component A)

Instructions: Use the following boxes to complete the 18 items. Each box will expand as you type, and you are not limited in the length of your answers. Formatting features and symbols also may be used.

1. CDC Principal Investigator(s) or Project Directors and branch/division/office affiliations:

Dr. Stan A. Phillip, Chief (Acting), Prevention Program Branch, DHAP
Erica Dunbar, Senior Adviser (Acting), Prevention Program Branch, DHAP
Dr. Angela Hernandez, Chief, HIV Incidence and Case Surveillance Branch, DHAP
Dr. Azfar Siddiqi, Associate Chief of Science, HICSB, DHAP

2. CDC Project Officer(s) and each person's role and responsibilities and affiliations:

Dr. Renata D. Ellington, Assoc. Deputy Director, Prevention Programs, DHAP/OD
-NOFO Project Officer of Record

3. Other CDC project members, branches, divisions, and other participating institutions, partners, and staff:

All Project Officers, Epidemiologists, and Public Health Advisors in the Division of HIV/AIDS Prevention monitoring the project: James Powell, Richard Selik, Levator Brown, Darrin Brown, Rita Volpitta, Alexa Oster, Kevin Ramos, Zanetta Gant, Laura Kearns, Nivedha Panneer, Benjamin Laffoon, George Hill, Bill Longdon, Melissa Thomas-Proctor, Laurie Linley, Damarys Cordova, Carla Alexander-Pender, Angela Hernandez, Yolanda Gonzalez Alvarez, Christian Spears, Shuenae Smith, Debra Karch, Yvonne Greene, Veronica McCants, Mi Chen, Benjamin Puesta, Patricia Joyce, Stacy Muckleroy, Sheryl Lyss, Tracy Clopton, Andrew Mitsch, Nicole Crepaz, Dwayne Banks, Anne Marie France, Angie Allen, Richard Kline, Ndidi Nwangwu-Ike, Kischa Hampton, Sonia Singh, William Adih, Harneyca Hooper, Stephanie Celestain, Daphne Kennebrew, Patricia Sweeney, Azfar-e-Alam Siddiqi, Anne Peruski, Gabrielle O'Meara, Magan Pearson, Donato Clarke, Cheryl Banez Ocfemia, Alexandra Balaji, Tracy Ford, Ronald Buchanan, Kristen Gray, Kristen Hess, Anna Satcher-Johnson, Roderick Joiner, Tracy Luster-Welch, Karin Bosh, Meg Watson, Janet Scott.

4. Institution(s) or other entity(ies) funding the project:

This project is funded by CDC. No other entities fund this project.

5. Project goals:

The purpose of this Notice of Funding Opportunity (NOFO) is to implement an integrated comprehensive HIV surveillance and prevention program to prevent new HIV infections and achieve viral suppression among persons living with HIV. In particular, the NOFO promotes and supports improving health outcomes for persons living with HIV through achieving and sustaining viral suppression, and reducing health-related disparities by using quality, timely, and complete surveillance and program data to guide HIV prevention efforts, in accordance with the national prevention goals, HIV Care Continuum, and CDC's High-Impact HIV Prevention (HIP) approach.

The integration of the surveillance and prevention programs allows each jurisdiction to operate in unison and maximize the impact of federal HIV prevention funding. An integrated NOFO strengthens implementation of HIP by further allowing health departments to align resources to better match the geographic burden of HIV infections within their jurisdictions and improve data collection and use for public health action.

6. Project objectives:

The NOFO priorities are to increase individual knowledge of HIV status, prevent infections among HIV-negative persons, reduce transmission from persons living with HIV, and strengthen interventional surveillance to enhance response capacity and intensive data-to-care activities to support sustained viral suppression. Priority activities include (but are not limited to) HIV testing; linkage to, re-engagement in, and retention in care and support achieving viral suppression; pre-exposure prophylaxis (PrEP) related activities; community-level HIV prevention activities; HIV transmission cluster investigations and outbreak response efforts.

7. Public health (program or research) needs to be addressed:

Achieve and sustain viral suppression
Prevent new infections
Increase awareness of infection and link and retain HIV-positive individuals in HIV medical care
Detect and interrupt active HIV transmission

8. Population(s) or groups to be included:

All persons, with emphasis on populations at greatest risk for acquiring and transmitting HIV infection living in the United States, Puerto Rico and the US Virgin Islands.

9. Project methods:

Strategies and activities include: systematically collect, analyze, interpret, and disseminate HIV data to characterize trends in HIV infection, detect active HIV transmission, implement public health interventions, and evaluate public health response; identify persons with HIV infection and uninfected persons at risk for HIV infection; develop, maintain, and implement plans to respond to HIV transmission clusters and outbreaks; provide comprehensive HIV-related prevention services for persons living with diagnosed HIV infection (PLWH); provide comprehensive HIV-related prevention services for HIV-negative persons at risk for HIV infection; conduct perinatal HIV prevention and surveillance activities; conduct community-level HIV prevention activities; develop partnerships to conduct integrated HIV prevention and care planning; implement structural strategies to support and facilitate HIV surveillance and prevention; conduct data-driven planning, monitoring, and evaluation to continuously improve HIV programs; and build capacity for conducting effective HIV program activities, epidemiological science, and geocoding.

10. Selection, inclusion, or sampling of participants (persons or entities):

The funded health department jurisdictions will provide HIV surveillance and prevention services in accordance with state, local, and federal laws and regulations. The funded jurisdictions are responsible for overall public health in their respective jurisdictions. Therefore, this project will not involve sampling of participants.

11. Incentives to be provided to participants:

No incentives will be provided to participants.

12. Plans for data collection and analysis:

Data collection for the HIV prevention program has been approved by the Office of Management and Budget (OMB) under OMB Number 0920-0573, National HIV Surveillance System, Expiration Date: June 30, 2019, and OMB Number 0920-0696, National HIV Prevention Monitoring and Evaluation, Expiration Date: February 28, 2019. Changes to data collection requirements during the project period will be subject to review and approval by OMB.

Additionally, the funded jurisdictions will work in close collaboration with CDC to finalize their detailed Evaluation and Performance Measurement Plans (EPMP), including a Data Management Plan (DMP), in accordance with CDC program guidance.

13. Confidentiality protections:

The awardees are required to fully comply with NCHHSTP Data Security and Confidentiality Guidelines for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs (2011): <https://www.cdc.gov/nchhstp/programintegration/docs/PCSIDataSecurityGuidelines.pdf>

14. Other ethics concerns (e.g., incentives, risks, privacy, or security):

Please see the attached NCHHSTP Data Security and Confidentiality Guidelines for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs (2011).

15. Projected time frame for the project:

January 1, 2018 - December 31, 2022

16. Plans for publication and dissemination of the project findings:

CDC activities, in collaboration with the awardees include routine release of summarized surveillance data via, but not limited to, reports, slide sets, manuscripts etc., the sharing of information, best practices, lessons learned, and evaluation results between awardees (e.g., through conferences, guidance, material development, webinars, data sharing publications, other social media, participation in meetings, committees, conference calls, and working groups related to the cooperative agreement and its projects).

17. Appendices — including informed consent documents, scripts, data collection instruments, focus group guides, fact sheets, or brochures:

There are no appendices included.

18. References (to indicate need and rationale for project):

Please reference the PS18-1802 website for additional information.

1. NOFO <https://www.cdc.gov/hiv/pdf/funding/announcements/ps18-1802/cdc-hiv-ps18-1802-nofo.pdf>
2. PS18-1802 Evaluation and Performance Measurement Plan (EPMP) Guide
https://www.cdc.gov/hiv/pdf/funding/announcements/ps18-1802/CDC-HIV-PS18-1802-AttachmentC-EPMP_Final.pdf
3. PS18-1802 Local Evaluation Plan Guide
<https://www.cdc.gov/hiv/pdf/funding/announcements/ps18-1802/CDC-HIV-PS18-1802-AttachmentC-ME-Local-Plan.pdf>

PROJECT APPROVAL

Choose one of the following options (Division or Center/OD Project)

DIVISION PROJECT

NCHHSTP BRANCH AND DIVISION ADS REVIEW AND APPROVAL (Sign electronically by clicking next to the X and following the prompts)

Angela L.
Hernandez -S
Digitally signed by Angela L.
Hernandez -S
Date: 2018.01.19 11:29:55
-05'00'

X Stanley Phillip
-S
Digitally signed by Stanley
Phillip -S
Date: 2018.01.19 12:52:59
-05'00'

Branch Chief or Branch Science Officer

X Laura J. Fehrs
-S
Digitally signed by Laura J.
Fehrs -S
Date: 2018.01.22 10:25:11
-05'00'

Division ADS, Acting ADS, or Deputy ADS

CENTER/OD PROJECT

NCHHSTP OD OFFICE REVIEWS AND APPROVALS (Sign electronically by clicking next to the X and following the prompts)

X

Office Associate Director or Designee

X

NCHHSTP ADS or Designee

NCHHSTP ADS/DEPUTY ADS OR ADLS REVIEW AND APPROVAL

Project Title: Integrated HIV Surveillance and Prevention Programs for Health Departments (Component A)

Date received in NCHHSTP ADS or ADLS office:

Date received by NCHHSTP Deputy ADS or ADLS:

Select the checkbox for each applicable comment for Nos. 1–5 or select the checkbox for No. 6 if all of the comments apply. Additional applicable comments may be added to No. 7. If additional information is required before approval can be granted, select No. 8.

1. This project is approved by NCHHSTP/CDC and CDC (per CDC policies and federal regulations) for CDC staff participation.
2. Participating partners and sites must obtain project review and approval, according to their institutional policies and procedures and according to local, national, and international regulations and laws, including 45 CFR 46 regulations and state laws. CDC project officers must maintain a current copy of local sites' approvals in project records.
3. CDC investigators and project officers need to adhere to the highest ethics standards of conduct and to respect and protect the privacy, confidentiality, autonomy, data, welfare, and rights of participants and integrity of the project. All applicable country, state, and federal laws and regulations must be followed.
4. Informed consent or script is needed as required by laws and regulations. Information conveyed in an informed consent or script process needs to address all applicable required elements of informed consent. Consent of employees in related projects about their institutions needs to include a statement that their voluntary participation or withdrawal would not affect their employment status or opportunities.
5. OMB Paperwork Reduction Act determination by the NCHHSTP OMB/PRA Coordinator might be needed for this project.
6. All previous comments apply.
7. **Other applicable comments:** Type your comment in the box. The space will expand as you type.

--	--

8. **More information is required before approval is granted:** Explain what additional information is requested by typing in the box. The space will expand as you type.

--	--

Date Information was requested:

Date Information was received:

Approval must be granted by the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Associate Director for Science (ADS), Acting ADS, or Deputy ADS, or for laboratory-associated projects, by the Associate Director for Laboratory Science (ADLS) or Acting ADLS.

Project Title: Integrated HIV Surveillance and Prevention Programs for Health Departments (Component A)

X Alcia A.
Williams -S6

Digitally signed by Alcia A.
Williams -S6
Date: 2018.01.22 10:51:06
-05'00'

NCHHSTP ADS, Acting ADS, or Deputy ADS

Or

X

NCHHSTP ADLS or Designee

National HIV Surveillance System (NHSS)

Attachment 10.

Project Determination for the National HIV Surveillance System



REQUEST for Project Determination & Approval - NCHHSTP ADS/ADLS OFFICE

This form should be used to submit proposals to the NCHHSTP ADS/ADLS Office for determination that have not begun and do not require routing to the CDC Human Research Protection Office at this time. Projects eligible for this classification are (1) non-research activities; (2) research that does not involve identifiable human subjects; (3) human subject research in which CDC is not "engaged".

Project Title:

The National HtV Surveillance System

Project Location/Country(ies): Atlanta, GA / US

Project Officer(s): ~~Gary Buckett~~ *Lorenzo Espinoza* **Division:** DHAP **Telephone:** (404) 639-8879

Proposed Project Dates: Start: 1/1/2013 End: 12/31/2017 **Laboratory Branch Submission:**

Please check appropriate category and subcategory:

I. Activity is not human subjects research. Primary intent is public health practice or a disease control activity.

- A. Epidemic or endemic disease control activity; collected data directly relate to disease control (e.g. Epi-AIDs; provide Epi-AID number & documentation of request for assistance, if division policy). Epi-AID #
- B. Routine disease surveillance activity; data used for disease control program or policy purposes.
- C. Program evaluation activity; data are used primarily for that purpose.
- D. Post-marketing surveillance of effectiveness or adverse effects of a new regimen, drug, vaccine, or device.
- E. Laboratory proficiency testing.

II. Activity is not human subjects research. Primary intent is public health program activities.

- A. Public health program activity (e.g., service delivery; health education programs; social marketing campaigns; program monitoring; electronic database construction and/or support; development of patient registries; needs assessments; and demonstration projects intended to assess organizational needs, management, and human resource requirements for implementation).
- B. Activity is purely administrative (e.g., purchase orders or contracts for services or equipment).

III. Activity is research but does NOT involve identifiable human subjects.

- A. Activity is research involving collection or analysis of data about health facilities or other organizations or units which are not individual persons.
- B. Activity is research involving data or specimens from deceased persons.
- C. Activity is research using unlinked or anonymous data or specimens: **ALL** (1-4) of the following are required:
 - 1. No contact with human subjects is involved for the proposed activity...and...
 - 2. Data or specimens are/were collected for another purpose...and...
 - 3. No extra data/specimens are/were collected for this purpose...and...
 - 4. Identifying information was: (one of these must be checked)
 - a. not obtained
 - b. removed prior to this submission, or prior to CDC receipt, so that data cannot be linked or re-linked with identifiable human subjects
 - c. protected through an agreement. (*CDC investigators and the holder of the key linking the data to identifiable human subjects enter into an agreement prohibiting the release of the key to the investigators under any circumstances. A copy of the agreement must be attached).

IV. Activity is research involving human subjects but CDC involvement does not constitute "engagement in human subject research". Select only one option below: 'A' indicates the project is funded, 'B' or 'C' indicate there is no current funding

- A. This project is funded under a grant/cooperative agreement/contract award mechanism.

ALL of the following 3 elements are required:

- 1. CDC employees or agents will not intervene or interact with living individuals for research purposes.
- 2. CDC employees or agents will not obtain individually identifiable private information.
- 3. Supported institution must have a Federallywide Assurance (FWA) and project must be reviewed by a registered IRB linked to the supported institution's FWA.

Supported Institution/Entity Name:

Supported Institution/Entity FWA #

Expiration Date of IRB approval:

FWA Expiration Date (mm/dd/yyyy):

*Attach copy of the IRB approval letter.

- B. CDC staff provide technical support that does not involve possession or analysis of identifiable data or interaction with participants from whom data are being collected (No current CDC funding).
- C. CDC staff are involved only in manuscript writing for a project that has closed. For the project, CDC staff did not interact with participants and were not involved with data collection (No current CDC funding).

Approval initials & printed name:

R Hall
Branch Chief1/25/13
DateWA Valley
ADS/ADLS or Division Director1/30/13
DateDivision Notes/Comments:

Project Title: The National HIV Surveillance System

NCHHSTP ADS/ADLS Review Date received in NCHHSTP ADS /ADLS office:

Concur, project does not require human subject research review beyond NCHHSTP at this time

Project constitutes human subject research that must be routed to CDC HRPD

Comments/Rationale for Determination:

- This activity is Public Health surveillance consisting of two components: HIV Case and incidence.
- Review/approval by local participating partners and sites are important
- Adhere to all policies, procedures and regulations.

Signed:

Janelle Darden, PhD, MPH, MA

Name

Associate (or Acting or Deputy Associate) Director for Science, NCHHSTP

OR

Associate Director for Laboratory Science, NCHHSTP

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

2/12/13

Date

National HIV Surveillance System (NHSS)

Attachment 10.

Summary of Proposed Changes in Data Collection Instruments for the
National HIV Surveillance System (NHSS) OMB # 0920-0573

**Summary of Proposed Changes in Data Collection Instruments for the
National HIV Surveillance System (NHSS) OMB # 0920-0573**

Summary of Changes

We are requesting continuation of the information collection request (ICR) for the National HIV Surveillance System (NHSS) OMB #0920-0573 with some changes. We are requesting to extend data collection on the currently approved data collection instruments through December 31, 2022 (expiration November 30, 2022), and then implement collection that includes the changes described within this document starting in January 2023. The changes requested for this ICR include modifications to currently collected data elements on the Adult HIV Confidential Case Report Form (ACRF), combining information collected for perinatal HIV exposures on two forms (the Perinatal HIV Exposure Reporting [PHER] form and the Pediatric HIV Confidential Case Report Form [PCRF]) to collect on one form (PCRF), and modifications to data system tables and variables as a result of the revisions. Requested changes for forms and data elements have been developed with input of state and local HIV surveillance coordinators and the Council of State and Territorial Epidemiologists (CSTE) HIV subcommittee and are intended to improve usability and data collection and create efficiencies for conducting and evaluating surveillance program activities. In addition, modifications to the Standards Evaluation Report (SER) are requested in order to better align with needed information to assess program performance in January 2023. This information will be captured via REDCap, a secure web application for building and managing online surveys and databases.

An overview of the form changes is provided below. The specific changes to the ACRF and PCRF are described in detail in Table 1. The revised ACRF and PCRF that include the proposed changes are included in Attachments 3(a) and 3(b).

Changes to the ACRF and PCRF (Table 1A)

A revised version of the ACRF is provided in Attachment 3(a) and the revised PCRF is provided in Attachment 3(b). These forms will replace Attachments 3(a) and 3(b) of our previously approved ICR. Existing collection of gender identity was updated in the Patient Demographics sections of the ACRF and PCRF to revise the existing response option labels and to collect one additional gender identity response option and the date associated with the gender identity to more accurately summarize a person's gender identity. We revised the designation of the collection of gender identity from recommended to required to be able to more accurately release information about gender categories. With this revision we have proposed to begin collecting information about a person's sexual orientation, including the date associated with the sexual orientation, so that data can be reported by sexual orientation rather than by using information collected in the Patient History section as a proxy. In the Patient History section, we updated the language to align with the Division of HIV Prevention terminology guide, which recommends the use of 'person who injects drugs' instead of 'injection drug user'.

The Laboratory section of the ACRF and PCRF was reformatted. Format changes included combining sections, revising the order for collecting certain test types and the number of test results collected by test type to better align data collection with the recommended HIV testing algorithm and to limit the length of the section on the form. We updated some wording in the Laboratory Data section to reflect current terminology. We added two new test types, HIV-1/HIV-2 RNA NAAT and HIV-1 RNA NAAT (Qualitative and Quantitative), and revised response options on some existing test types to

accommodate changes in HIV testing technology. For test types under the subsections HIV Immunoassays and HIV Detection Tests, we added two new response options: "Self-test, result directly observed by a provider" and "Lab test, self-collected sample" to the variable to collect testing options to be able to summarize documented self-testing activity and self-collected specimens among persons with diagnosed HIV. We have designated the collection of information about self-testing and specimen self-collection in this section as required. We have updated information collection designations of facility name and lab name from optional to required. We updated the information collection designation of result so that all portions (including interpretation) are required. Previously, the interpretation portion of the result had been designated as optional. The designations were changed to improve collection of completed information and ensure consistency of collection across all test types and because this laboratory information is crucial for data-to-care activities. We do not anticipate that changing these designations will increase data collection burden because this information is typically provided through electronic laboratory reporting.

Overall, we made some formatting changes to the ACRF and PCRF. We added roman numerals to each section name to assist staff with referencing a particular section of the form. We removed the State/Local Use section of the form to accommodate room for other form changes; information collected in this section could duplicate information collected elsewhere on the form and state and local HIV surveillance coordinators expressed no concerns with removing this section. We revised the confidentiality statement in the footer of the ACRF and PCRF to remove the words "on file at the local health department" to remove ambiguity about whether the assurance is specific to the local health department or is managed by CDC. We removed the word "please" from the Patient Demographics, Patient History, Clinical, and Treatment/Services Referrals sections to align wording with other instructions throughout the ACRF and PCRF. We updated question labels and instructions so that the language no longer reflects that a test is positive or negative but that the test result is positive or negative.

Changes to the ACRF only (Table 1B)

In the Laboratory Data section of the ACRF we updated the labels for collecting information about HIV diagnoses documented by a physician to clarify instructions for when these field should be completed.

In the HIV Testing History section we added three new fields to collect information about self-testing associated with the first positive test result, the last negative test result, and previous negative test results to be able to summarize self-testing activity among persons with diagnosed HIV.

Changes to the PCRF and PHER Form (Table 1C)

Information about perinatal HIV exposures was previously collected across two forms, the PCRF and PHER form, and information about pediatric HIV infection was also collected on the PCRF. We received feedback from state and local HIV surveillance coordinators and other partners in CDC involved with perinatal HIV elimination efforts that the PCRF and PHER form should be combined to reduce redundancy across the forms and better reflect the information necessary to assess progress with perinatal HIV elimination efforts and to support HIV prevention activities; we concurred with the feedback and consolidated the information to be collected into a single form still called the PCRF as part of this revision. We retained the name of the PCRF because prior to this revision some information about perinatal HIV exposures was collected on the form. However, we revised the instruction associated with the form name from indicating the form was for "patients aged <13 years at time of diagnosis" to "patients aged <13 years at time of perinatal exposure or patients aged <13 years at time of diagnosis." We worked closely with the perinatal HIV surveillance workgroup, which includes state

and local HIV surveillance coordinators and other partners in CDC, while consolidating the collection of information to a single form. Combining the form reduced the total number of pages for collecting the information on the hard copy forms; we reduced from two forms with four pages each to one form with six pages.

As part of combining the forms into a single PCRF, we identified some variables that collected the same or similar information on both the existing PCRF and PHER form and consolidated the variables to collect the information only one time. In total, we consolidated seven questions on the PHER form with existing variables on the PCRF form; this sometimes included some minor changes in question meaning, question wording, or the available response options. This included consolidating the collection of identifier numbers, the timing of when prenatal care began, and antiretroviral information for the birthing person and child.

We incorporated some key information collected on the PHER form by moving 13 numbered questions from the PHER form to the PCRF. As part of moving the information to the PCRF, there were sometimes minor changes made to the question meaning, question wording, or the available response options. We moved information associated with the birth (e.g., onset of labor, reason for cesarean section, and toxicology screening for the infant after birth) and information associated with the history of the birthing person (e.g., reproductive history, reason birthing person did not receive antiretrovirals, toxicology screening for the birthing person).

As part of the revision, we proposed to stop collecting 10 numbered questions previously collected on the PHER form and two variables on the existing version of the PCRF. We proposed to stop collecting most variables because similar information can be collected through other existing fields or the information was no longer necessary to collect given changes in HIV testing requirements. For example, we proposed to no longer collect whether the biological mother was counseled about HIV testing during this pregnancy, labor, or delivery because routine opt-out HIV testing has been established in the majority of jurisdictions and counseling is not required.

We added five new questions to the PCRF. Two new questions are related to breastfeeding/chestfeeding and premastication by the birthing person to improve the ability to correctly attribute infection to perinatal transmission and to identify when breastfeeding/chestfeeding or premastication by the birthing person occurred. We added two new questions related to breastfeeding/chestfeeding and premastication by a non-birthing person to improve the ability to correctly attribute infection to non-perinatal transmission when child's infection was determined to occur during breastfeeding by a non-birthing person or through receipt of pre-masticated food from the non-birthing person. We added one question to the Birthing Person History section to collect whether a CD4 and quantitative NAAT test results were documented in the birthing person's labor and delivery record to identify whether medical providers were aware of recent HIV test results during labor and delivery to make clinical decisions about medical care provided during labor and delivery.

We revised the response options for the existing variable to collect the delivery method in the Birth History section on the PCRF to align with current medical practice for delivery methods. We also updated the designation for collecting information for the delivery method from optional to required to align with the designation on the current PHER form that indicators for a cesarean delivery is a required field.

Overall, we made some formatting and wording changes to the PCRF to improve clarity. In the Laboratory Data section of the PCRF, we updated the labels for collecting information about HIV diagnoses documented by a physician to clarify instructions for when these field should be completed. Throughout the Patient History section, we updated references from "biological mother" to "birthing person" to better reflect that information should be collected for the birthing person regardless of gender identity or parental status. We updated the instruction in the section titled "Birth History (for Perinatal Cases only)" to "Birth History (for patients exposed perinatally with or without consequent infection)" to clarify instructions for when this section of the form should be completed. In the Birth History Section, we revised the label for a variable from "Birth Defects" to "Congenital Disorders" to align with current preferred terminology. We added the Birthing Person History section to the PCRF to limit the length of the existing Birth History information as information from the previous PHER form was incorporated into the PCRF; this also included moving some information previously collected in the Birth History section to the Birthing Person History section (e.g., birthing person last name soundex). The addition of this section creates a more focused area for collecting the majority of data that are related to the birthing person rather than the child. We added the gender identity variable to the Patient History section of the hard copy PCRF for the first time; this information had been captured previously in the electronic reporting system (i.e., enhanced HIV/AIDS reporting system (eHARS)) on the PCRF document, but not on the hard copy form. Refer to "Changes to the ACRF and PCRF" section of this document above for other changes related to collecting gender identity that were shared across the forms.

eHARS Only Changes (Table 2)

We proposed two changes that would be made only in eHARS but would not be reflected on the hard copy forms. These include addition of 5 types of patient identifiers from other data collection systems that can be entered or imported into eHARS to improve the ability to link with other data collection systems. In addition, we also created new variables that summarize information submitted for each person (i.e., person view summary variable) to summarize information associated with suspected acute HIV infection.

SER Changes (Table 3)

We are requesting a non-substantial change to the Standards Evaluation Report (SER) as provided in Attachment 3(d) and the specific changes are outlined in Table 3. The proposed form will be provided to jurisdictions in January 2023 to report their outcomes. Most of the changes are minor edits for clarity and consistency, and deletion of questions that are no longer needed. The word document format of the SER will be provided to jurisdictions as a guide, but data collection will occur via REDCap.

Table 1. Proposed Modifications to the Adult HIV Confidential Case Report Form (ACRF) and Pediatric HIV Confidential Case Report Form (PCRF)

Table 1A. Changes to the ACRF and PCRF

Section, Variable	Change Proposed	Reason for Change Proposed
Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	Revised label from "Current Gender Identity" to "Gender Identity"	To reflect that the gender identity collected might not reflect the gender identity at the time the form was completed.
Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	<p>On ACRF, relabeled response options from "Male" to "Man," "Female" to "Woman," "Transgender male-to-female (MTF)" to "Transgender woman," and "Transgender female-to-male" to "Transgender man" on the ACRF.</p> <p>On the PCRF, relabeled response options from "Male" to "Boy," "Female" to "Girl," "Transgender male-to-female" to "Transgender girl," and "Transgender female-to-male" to "Transgender boy."</p> <p>Updated order of response options so that "Transgender woman" (ACRF) and "Transgender girl" (PCRF) is the last of these four response options.</p>	<p>To improve differentiation between "sex assigned at birth" (e.g., male, female) and gender identity (e.g., man, woman, transgender man, transgender woman). Similar terms for gender have been used in HIV surveillance reports by other city health departments (e.g., 2018 Annual HIV Epidemiology Report for San Francisco Department of Public Health and the 2019 HIV Surveillance Annual Report for New York City Department of Health and Mental Hygiene).</p> <p>Updated to align gender identity terms on the PCRF with terms used for this age group on the CDC's Youth Risk Behavior Survey.</p>
Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	Added one new gender identity response option: Declined to answer.	To better differentiate between when a person declined to provide their gender identity and when gender identity was not collected.
Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	Added variable in eHARS to collect the response to the "(specify)" option associated with "Additional Gender Identity" on the hard copy form. No changes to the hard copy form.	To allow place in eHARS to capture information collected on the hard copy form for consistency.

Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	<p>Added a field to collect "Date Identified" associated with the gender identity collected. Assigned designation of this field for collection as required.</p>	To be able to monitor changes in gender identity over time and accurately summarize a person's gender identity at specific points in time presented in state/local and national surveillance products.
Section IV (ACRF & PCRF): Patient Demographics, Variable: Gender Identity	Updated designation for collecting this information from recommended to required.	To more accurately release information about gender categories.
Section IV (ACRF & PCRF): Patient Demographics, Variable: Sexual Orientation	<p>Added question and response options to collect sexual orientation.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Straight or heterosexual <input type="checkbox"/> Lesbian or gay <input type="checkbox"/> Bisexual <input type="checkbox"/> Additional sexual orientation (specify) _____ <input type="checkbox"/> Declined to answer <input type="checkbox"/> Unknown <p>Associated with the sexual orientation response added the field "Date Identified" to collect sexual orientation over time.</p> <p>Assigned designation of these fields for collection as required.</p>	To allow for future release of aggregate data by reported sexual orientation rather than by using information collected in the Patient History section as a proxy.
Section IV (ACRF & PCRF): Patient Demographics, Variable: Country of Birth Section VII (ACRF & PCRF): Patient History, Variable: Other documented risk Section VII (ACRF): Patient History, Variable: Pediatric Risk Section VIII (ACRF): Clinical, Variable: If YES, describe	Removed "please" from question label and response options.	To align wording with other instances where a free text option is provided to record other response options.

Section XII (PCRF): Treatment/Services Referrals, Variable: This child's primary caretaker is		
Section VII (ACRF & PCRF): Patient History, Variable: Heterosexual contact with intravenous/injection drug user	Updated language to: "Heterosexual contact with person who injected drugs"	To align with Division of HIV Prevention terminology guide.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Subheading	Combined subsection headings for "HIV Immunoassays (Nondifferentiating)" and "HIV Immunoassays (differentiating)" into a single subsection heading titled "HIV Immunoassays." Revised order of the test types collected in this subsection. Removed space to collect information about a second test of the same test type (i.e., TEST 2). Updated label from TEST 1 to TEST.	To better align collection of the information with the recommended HIV testing algorithm and to limit the length of the section.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1/2 Ag/Ab differentiating immunoassay, Result	Updated to collect an overall result for the test with response options of "Reactive" and "Nonreactive". Update to collect analyst results for HIV-1 p24 antigen with response options of "Reactive" and "Nonreactive" and HIV-1/2 antibody with response options of "Reactive" and "Nonreactive."	To accommodate result options available with new FDA-approved test and align with changes made to eHARS 4.12.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1/2 Ag/Ab differentiating immunoassay , HIV-1/2 Ag/Ab and type-differentiating immunoassay , HIV-1/2 type-differentiating immunoassay	Added label "TEST" in front of test type option.	To make consistent across the Laboratory Data section.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Role of test in diagnostic algorithm	Removed from hard copy form. Updated label from "HIV-1/2 type-differentiating immunoassay" to "HIV-1/2 type-differentiating immunoassay (supplemental)."	HIV-1/2 type-differentiating immunoassay should only be used as the supplemental test with current FDA approved tests. Updated form to limit routine collection of information on the

		hard copy form about this test type to approved use as a supplemental test.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1/2 type-differentiating immunoassay, Result, Overall Interpretation	<p>Added response option of "HIV-1 positive with HIV-2 cross-reactivity."</p> <p>Update response option order:</p> <ul style="list-style-type: none"> <input type="checkbox"/> HIV positive, untypable <input type="checkbox"/> HIV-1 positive with HIV-2 cross-reactivity <input type="checkbox"/> HIV-2 positive with HIV-1 cross-reactivity <input type="checkbox"/> HIV negative <input type="checkbox"/> HIV indeterminate <input type="checkbox"/> HIV-1 indeterminate <input type="checkbox"/> HIV-2 indeterminate <input type="checkbox"/> HIV-1 positive <input type="checkbox"/> HIV-2 positive 	To account for a result option available with new FDA-approved test and group similar test results together in response option order.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV Detection Tests (Qualitative) and HIV Detection Tests (Quantitative viral load)	<p>Combined subsection headings for "HIV Detection Tests (Qualitative)" and "HIV Detection Tests (Quantitative viral load)" into a single subsection heading titled HIV Detection Tests."</p> <p>Removed space to collect information about a second test of the same test type (i.e., TEST 2).</p> <p>Updated label from TEST 1 to TEST.</p> <p>Removed instruction "(Note: Include earliest test at or after diagnosis) associated with "HIV Detection Tests (Quantitative viral load)" subsection heading.</p>	To limit the length of the Laboratory Data section. To reflect the fact that when reporting quantitative test results on the form that it does not always have to be the earliest test at or after diagnosis.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1 RNA/DNA NAAT and HIV-2 RNA/DNA NAAT	<p>Updated label associated with each test type option from "(Quantitative viral load)" to "(Quantitative)." Update Result response options from "Detectable" and "Undetectable" to "Detectable above limits," "Detectable within limit," and "Detectable below limit," and "Not detected."</p>	To reflect current terminology and test result reporting options for FDA approved tests of this type.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1/HIV-2 RNA NAAT	<p>Created space to capture information associated with HIV-1/HIV-2 RNA NAAT tests in a format to similar test types.</p> <p>TEST <input type="checkbox"/> HIV-1/2 RNA NAAT (Qualitative)</p> <p>Test brand name/Manufacturer</p>	To accommodate collection of information associated with new FDA-approved tests and align with changes made to eHARS 4.12. These updates do not change the data collection burden

	<p>Lab name Facility name Provider name Result <input type="checkbox"/> HIV-1 <input type="checkbox"/> HIV-2 <input type="checkbox"/> Both (HIV-1 and HIV-2) <input type="checkbox"/> HIV, not differentiated (HIV-1 or HIV-2) <input type="checkbox"/> Neither (negative) Collection Date ____ / ____ / ____</p>	as this information was already being reported by laboratories for tests of these types. The current revision was made to allow a dedicated space to capture the information on the ACRF and PCRF.
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1 RNA NAAT (Qualitative and Quantitative)	<p>Created space to capture information associated with HIV-1 RNA NAAT (Qualitative and Quantitative) tests in a format to similar test types TEST <input type="checkbox"/> HIV-1 RNA NAAT (Qualitative and Quantitative) Test brand name/Manufacturer Lab Name Facility name Provider name Result Qualitative: <input type="checkbox"/> Reactive <input type="checkbox"/> Nonreactive Analyte results: HIV-1 Quantitative: <input type="checkbox"/> Detectable above limit <input type="checkbox"/> Detectable within limits <input type="checkbox"/> Detectable below limit Copies/mL Log Collection Date ____ / ____ / ____</p>	To accommodate collection of information associated with new FDA-approved test and align with changes made to eHARS 4.12. These updates do not change the data collection burden as this information was already being reported by laboratories for tests of these types. The current revision was made to allow a dedicated space to capture the information on the ACRF and PCRF.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Immunologic Tests (CD4 count and percentage)	Reduced number of CD4 test results to be collected from three at specific points in time (at or closest to diagnosis, <200 cells/uL or 14%, and other) to a single CD4 count without a specified point in time.	To limit the length of the Laboratory Data section. To reflect the fact that a CD4 test result at any point in time can be reported.
Section IX (ACRF & PCRF): Laboratory Data, Variable: N/A	Modified the instruction provided under the Documentation of Tests heading. Changed from "Complete the above only if none of the following were positive for HIV-1: Western blot, IFA, culture, viral load, qualitative NAAT (RNA or DNA), HIV-1/2 type-differentiating immunoassay (supplemental test), stand-alone p24 antigen, or nucleotide	To reflect current terminology for FDA approved tests of this type.

	sequence" to "Complete the above only if none of the following were positive for HIV-1: Western blot, IFA, culture, quantitative NAAT (RNA or DNA), qualitative NAAT (RNA or DNA), HIV-1/2 type-differentiating immunoassay (supplemental test), stand-alone p24 antigen, or nucleotide sequence."	
Section IX (ACRF & PCRF): Laboratory Data, Variable: HIV-1/2 type-differentiating immunoassay, Result and HIV-1/2 Ag/Ab and type-differentiating immunoassay, Result	Renumbered footnote. Moved footnote from area specific to the test result to the end of the Laboratory Data section.	To accommodate additional footnote added. To limit the length of the Laboratory Data section.
Section IX (ACRF & PCRF): Laboratory Data, Variable: If YES, provide specimen collection date of earliest positive test for this algorithm (existing label)/ If YES, provide specimen collection date of earliest positive test result for this algorithm Section VIII (ACRF): Clinical, Variable: Suspect acute HIV infection Section IX (ACRF): Laboratory Data, Variable: Date of last documented negative HIV test result Section XII (ACRF): HIV Testing History, Variable: Ever had previous positive HIV test result?, Date of first positive HIV test result, Ever had a negative HIV test result, Date of last negative HIV test result, Number of negative HIV test results within the 24 months before the first positive test result Section VII (PCRF): Patient History, Variable: Date of birthing person's first positive test result to confirm infection	Revised label from "test" to "test result(s)."	To clarify that only the test results can be positive or negative, not the test itself.

Section IX (ACRF & PCRF): Laboratory Data, Variable: Test brand name/manufacturer	Designated test brand name/manufacturer as an optional field for the two new test types (HIV-1 RNA NAAT (Qualitative and Quantitative) and HIV-1/HIV-2 RNA NAAT.	To align designation for collecting test brand name/manufacturer for the new test types with the designation for all other laboratory test types already collected.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Facility name	Designated facility name as a required field for the two new types. Updated the designation of facility name from optional to required for all other laboratory test types already collected.	Facility name is crucial for conducting data to care activities.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Lab name	Designated lab name as a required field for the two new types. Updated the designation of lab name from optional to required for all other laboratory test types already collected.	Lab name is crucial for conducting data to care activities.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Provider name	Designated provider name as an optional field for the two new test types (HIV-1 RNA NAAT (Qualitative and Quantitative) and HIV-1/HIV-2 RNA NAAT.	To align designation for collecting provider name for the new test types with the designation for all other laboratory test types already collected.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Collection date	Designated collection date as a required field for the two new test types (HIV-1 RNA NAAT (Qualitative and Quantitative) and HIV-1/HIV-2 RNA NAAT.	To align designation for collecting collection date for the new test types with the designation for all other laboratory test types already collected.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Result (all portions)	Designated result as a required field for the new HIV-1/HIV-2 RNA NAAT. Designated the result qualitative and analyte result as required fields for the new HIV-1 RNA NAAT (Qualitative and Quantitative) test type. Revised the designation for HIV-1 RNA/DNA NAAT (Quantitative) and HIV-2 RNA/DNA NAAT (Quantitative) so that all portions of the result are required; previously the interpretation portion of the result was designated as optional.	To ensure that the designation of result was consistent across all laboratory test types collected.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Trend Branch	Updated so that the first letter in each word of the following labels is capitalized: Test Brand	To improve consistency in capitalization of labels throughout the Laboratory Data section.

Name/Manufacturer, Lab Name, Facility Name, Provider Name, Index Value	Name/Manufacturer, Lab Name, Facility Name, Provider Name, Index Value.	
Section IX (ACRF & PCRF): Laboratory Data, Variable: Testing Option	<p>For tests under the subsections HIV Immunoassays and HIV Detection Tests, added label to designate the testing option. Updated wording for response option from "Point-of-care rapid test." Added two new response options: " Self-test, result directly observed by a provider" and "Lab test, self-collected sample." Added associated footnote below the Laboratory Data section.</p> <p>Testing Option (if applicable) <input type="checkbox"/> Point-of-care test by provider <input type="checkbox"/> Self-test, result directly observed by a provider¹ <input type="checkbox"/> Lab test, self-collected sample</p> <p>¹Results not directly observed by a provider should be recorded in HIV Testing History.</p> <p>Assigned designation of this field for collection as required.</p>	To be able to summarize documented self-testing activity and self-collected specimens among persons with diagnosed HIV.
Section IX (ACRF & PCRF): Laboratory Data, Variable: Testing Option	<p>Associated with the last documented negative HIV test under the Documentation of Tests subsection, added label to designate the testing option and three response options.</p> <p>Testing Option (if applicable) <input type="checkbox"/> Point-of-care test by provider <input type="checkbox"/> Self-test, result directly observed by a provider¹ <input type="checkbox"/> Lab test, self-collected sample</p> <p>¹Results not directly observed by a provider should be recorded in HIV Testing History.</p> <p>Assigned designation of this field for collection as required.</p>	To be able to summarize documented self-testing activity and self-collected specimens among persons with diagnosed HIV.
Section (ACRF & PCRF): All, Variable: N/A	Added roman numerals to designate each section.	To assist staff with referencing a particular section of the form.
Section (ACRF & PCRF): State/Local Use (deleted), Variable: N/A	Removed section from the hard copy form.	To accommodate room for other form changes.

Section (ACRF & PCRF): Footer, Variable: Confidentiality Statement	Removed the words "on file at the local health department" from the confidentiality statement.	To remove ambiguity about whether the assurance is specific to the local health department or is managed by CDC.
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Table 1B. Changes to the ACRF Only

Section, Variable	Change Proposed	Reason for Change Proposed
Section IX (ACRF): Laboratory Data, Variable: Is earliest evidence of HIV infection diagnosis documented by a physician rather than by laboratory test results?	Updated label from "If HIV laboratory tests were not documented, is HIV diagnosis documented by a physician?" to "Is earliest evidence of HIV infection diagnosis documented by a physician rather than by laboratory test results?"	To clarify instructions for when this field should be completed.
Section IX (ACRF): Laboratory Data, Variable: If YES, provide date of diagnosis by physician	Updated label from "If YES, provide date of diagnosis" to "If YES, provide date of diagnosis by physician."	To clarify which date should be used to complete the field.
Section XII (ACRF): HIV Testing History, Variable: Was the first positive test result from a self-test performed by the patient?	Added the following question and responses after "Date of first positive HIV test result" question: Was the first positive test result from a self-test performed by the patient? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Assigned designation of this field for collection as required.	To be able to summarize self-testing activity among persons with diagnosed HIV.
Section XII (ACRF): HIV Testing History, Variable: Was the last negative test result from a self-test performed by the patient?	Added the following question and responses after "Date of last negative HIV test result" question: Was the last negative test result from a self-test performed by the patient? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Assigned designation of this field for collection as required.	To be able to summarize self-testing activity among persons with diagnosed HIV.
Section XII (ACRF): HIV Testing History, Variable: How many of these negative test results were from self-tests performed by the patient?	Added the following question and responses after "Number of negative HIV test results within the 24 months before the first positive test result" question:	To be able to summarize self-testing activity among persons with diagnosed HIV.

	<p>How many of these negative test results were from self-tests performed by the patient? ____ <input type="checkbox"/></p> <p>Unknown</p> <p>Assigned designation of this field for collection as required.</p>	
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Table 1C. Changes to the PCRF and PHER Form

Variables Consolidated Across the PCRF and PHER Form

Section, Variable	Change Proposed	Reason for Change Proposed
Section II (PCRF): Health Department Use Only Header, Variable: State Number	Consolidated collection of PHER form "Infant's State Number" into PCRF Health Department Use Only section field "State Number" with change in question wording on the PHER form, but with no change to existing PCRF field label or response options.	To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section II (PCRF): Health Department Use Only Header, Variable: City/County Number	Consolidated collection of PHER form "Infant's City Number" into PCRF Health Department Use Only section field "City/County Number" with change in question wording on the PHER form, but with no change to existing PCRF field label or response options.	To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Birthing Person State ID Number	Consolidated collection from PHER form "Mother's State Number." Moved from Birth History section to newly created Birthing Person History section with change to question wording and no change to the response options. Changed wording from "Maternal" to "Birthing Person."	To limit the length of the Birth History section. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Prenatal Care—Month of Pregnancy Prenatal Care Began	Consolidated collection from PHER form Q3 with change in question meaning from collecting weeks' gestation to months' gestation and no change in response options. Moved from Birth History section to newly created Birthing Person History section with no changes to existing PCRF field label or response options.	To consolidate data collection into a single form for persons <13 years at time of HIV exposure or diagnosis. To limit the length of the Birth History section. Updated designation to align with

	Updated designation of this field for collection from optional to required.	current designation for this field when collected on the PHER form.
Section XI (PCRF): Birthing Person History, Variable: Did birthing person receive any ARVs during this pregnancy?	<p>Consolidated collection of PHER form Q12 into existing PCRF Birthing Person History section field "Did mother receive any ARVs during pregnancy?" with changes in question wording, and response options. Moved to the PCRF Birthing Person History section. Although the question wording was updated from "prescribed" to "receive" the information collected will reflect whether there is any evidence of ARVs received, which includes documentation that ARVs were prescribed.</p> <p>Changed the question wording to state "birthing person" instead of "mother". Revised question wording from "Drug name" to "If YES, specify all ARVs", "Date drug started" to "Date began" and "Date stopped" to "Date of last use." Removed response options "Not documented" and "Record not available." No longer collect "Gestational age drug started," "Drug stopped," or "Stop codes." No longer collect "Drug refused" separately from other response options.</p> <p>Updated designation of this field for collection from recommended to required.</p>	<p>To retain more frequently used practice in existing National HIV Surveillance System data collection to collect information on antiretrovirals. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To align with document-based surveillance. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.</p> <p>Updated designation to align with current designation for this field when collected on the PHER form.</p>
Section XI (PCRF): Birthing Person History, Variable: Did birthing person receive any ARVs during labor/delivery?	<p>Consolidated collection of PHER form Q14 into existing PCRF Birthing Person History section field "Did mother receive any ARVs during labor and delivery?" with changes in question wording, and response options. Moved to the PCRF Birthing Person History section. Although the question wording was updated from "prescribed" to "receive" the information collected will reflect whether there is any evidence of ARVs received, which includes documentation that ARVs were</p>	<p>To retain more frequently used practice in existing National HIV Surveillance System data collection to collect information on antiretrovirals. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To align with document-based surveillance. To consolidate data collection into a single</p>

	<p>prescribed. Changed the question wording to state "birthing person" instead of "mother. Revised question wording from "Drug name" to "If YES, specify all ARVs", "Date received" to "Date began." Removed response options "Not documented" and "Record not available." No longer collect "Time received" or "Type of administration." No longer collect "Drug refused" separately from other response options.</p> <p>Updated designation of this field for collection from recommended to required.</p>	<p>form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.</p> <p>Updated designation to align with current designation for this field when collected on the PHER form.</p>
Section XII (PCRF): Treatment/Services Referrals, Variable: This child ever taken any ARVs?	<p>Consolidated collection of PHER form Q20 into PCRF Treatment/Services Referrals section "This child ever taken any ARVs?" with changes in question meaning, question wording, and response options. Changed question meaning from collecting antiretrovirals prescribed to antiretrovirals received. Revised question wording from "Drug name" to "ARV medication", "Date drug started" to "Date began" and "Stop Date" to "Date of last use." Removed response options "Not documented" and "Record not available." No longer collect "Drug Refused," "Time started," "Drug stopped," or "Stop codes."</p> <p>Modified layout of response options to change from collecting all ARV medications received for a specific reason in one row to allowing up to five ARV medications to be documented on separate rows along with the reason for use. Additional ARV medications can be recorded in the Comments section.</p>	<p>To retain more frequently used practice in existing National HIV Surveillance System data collection to collect information on antiretrovirals received rather than prescribed. To reduce data collection burden while consolidating data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.</p>

Variables Moved from the PHER Form to the PCRF

Section, Variable	Change Proposed	Reason for Change Proposed
Section X (PCRF): Birth History, Variable: If Cesarean delivery, mark all the following indications that apply	Moved from PHER form Q18 to PCRF Birth History section with no change in question meaning or question wording, but changes to response options. Removed "Not applicable" response option. Changed the response option wording to state "birthing person" instead of "mother."	To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section X (PCRF): Birth History, Variable: Birth information	Moved from PHER form Q17 to PCRF Birth History section with no changes to question wording, but changes in question meaning and response options. Question meaning changed by no longer collecting the date and time associated with the "Onset of labor" or "Admission to labor and delivery." Removed response options "Birth not in hospital" and "Record not available."	To consolidate data collection into a single form for persons <13 years at time of HIV exposure or diagnosis.
Section X (PCRF): Birth History, Variable: Was a toxicology screen done on the infant at birth?	Moved from PHER form Q10 to PCRF Birth History section with no change in question meaning, but changes in question wording and response options. Updated label from "at birth" to "after birth." Updated response options to include results for three additional substances (fentanyl, K2, and PCP). Removed "Toxicology screening not documented" response option. Added "Unknown" response option. Revised question wording and collection of response options to collect information about each specific substance screened and whether the result of the screening was "Positive," "Negative," "Unknown," or "Not screened" for each substance. Added field to collect date screened for each substance. Added instruction to clarify how to complete the form is	To reflect that information should be collected on any infant toxicology screening done within a time period after birth rather than just a toxicology screening done only at time of birth. To update current list of substances to include substances with a growing frequency of use so that they are systematically collected rather than captured through the "Other" response option. To differentiate which substances were included in the toxicology screening and the toxicology screening result for each specific substance. To consolidate data collection into a single form for persons

	the same substance is screened for more than one time.	<13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Birthing Person City/County ID Number	Moved collection of PHER form "Mother's City Number" to PCRF Birthing Person History section with change in question wording, but no change in question meaning or response options. Changed question wording from "Mother's City Number" to "Birthing Person City/County ID Number."	To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status.
Section XI (PCRF): Birthing Person History, Variable: Has the birthing person ever been pregnant before this pregnancy? Include previous pregnancies that ended in a live birth, miscarriage, stillbirth, or induced abortion	Moved from PHER form Q6 to PCRF Birthing Person History section with no change in question meaning, but changes in question wording and response options. Changed the question wording to state "birthing person" instead of "mother." Changed sub-question wording from "No. of previous pregnancies" to "If YES, specify how many previous pregnancies." Revised response options from collecting the number of previous live births, previous miscarriages or stillbirths, and previous induced abortion to collect pregnancy outcome and year of outcome for each individual previous pregnancy. No longer collect total previous abortions.	To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To improve quality assurance activities associated with reporting of HIV status of previous pregnancies. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: If NO, select reason (Associated with "Did birthing person receive any ARVs during this pregnancy?)	Moved from PHER form Q12a to PCRF Birthing Person Information section with changes in question meaning, question wording, and response options. Updated question meaning by changing to respond if antiretrovirals were not received instead of not prescribed. Updated question wording from "If no antiretroviral drug was prescribed during pregnancy, check reason." to "If NO, select reason." Removed response option "Not documented." Updated wording in	To retain more frequently used practice in existing National HIV Surveillance System data collection to collect information on antiretrovirals received rather than prescribed. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To align with document-based surveillance. To consolidate data collection into a single form for persons

	response options to state "birthing person" instead of "mother."	<13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: If NO, select reason (Associated with Did birthing person receive any ARVs during labor/delivery?)	Moved from PHER form Q14a to PCRF Birthing Person Information section with changes in question meaning, question wording, and response options. Updated question meaning by changing to respond if antiretrovirals were not received instead of not prescribed. Updated question wording from "If no antiretroviral drug was prescribed during pregnancy, check reason." to "If NO, select reason." Removed response option "Not documented." Updated wording in response options to state "birthing person" instead of "mother."	To retain more frequently used practice in existing National HIV Surveillance System data collection to collect information on antiretrovirals received rather than prescribed. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To align with document-based surveillance. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Was the birthing person screened for any of the following conditions during this pregnancy?	Moved from PHER form Q4 to PCRF Birthing Person Information section with changes in question wording, question meaning, and response options. Changed the question wording to state "birthing person" instead of "mother." Changed question meaning by updating instructions from "Check test(s) performed before birth, but closest to date of delivery or admission to labor and delivery" to "Check test(s) performed before birth." Removed "Not documented" and "Record not available" from response options for specific diagnoses.	To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To align with document-based surveillance. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Were any of the following conditions diagnosed for the birthing person during this pregnancy or at the time of labor and delivery?	Moved from PHER form Q5 to PCRF Birthing Person Information section with no change in question meaning, but changes in question wording and response options. Changed the question wording to state "birthing person" instead of "mother" and to state as a question rather than a statement. Updated abbreviation in	To better reflect that information should be collected for the birthing person regardless of gender identity or parental status. To make HBsAg terminology consistent throughout the form. To align with document-based surveillance. To consolidate data

	one of the diagnoses collected from "HbSAg+" to "HBsAg." Removed instruction "See instructions for data abstraction for definitions." Removed "Not document" and "Record not available" from response options.	collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Were substances used by the birthing person during this pregnancy?	Moved from PHER form Q8 to PCRF Birthing Person History section with no change in question meaning, but changes in the question wording and response options. Changed the question wording from "Was substance use during pregnancy noted in the medical or social work records?" to "Were substances used by the birthing person during this pregnancy?" Removed the overall "Record Not Available" response option; updated wording of response option from "No (Go to 9)" to "No."	To align with document-based surveillance. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Collection of whether specific substances were used or injected (Associated with Were substances used by the birthing person during this pregnancy?)	Moved questions from PHER form Q8a and 8b to PCRF Birthing Person History section with no change in question meaning, but changes in question wording and response options. Update question wording from "If yes, indicate which substances were used during pregnancy" and "If substances used, were any injected?" to collect whether each substance was used and injected. Updated response options to include results for three additional substances (fentanyl, K2, and PCP). Updated to record response options of "Used and injected," "Used and did not inject," "Used and unknown if injected," "Did not use," and "Unknown if used" for each specific substance rather than just selecting substance if "Yes."	To update current list of substances to include substances with a growing frequency of use so that they are systematically collected rather than captured through the "Other" response option. To differentiate between when a specific substance was not used or injected versus when there's not sufficient documentation to indicate whether a specific substance was used or injected. To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
Section XI (PCRF): Birthing Person History, Variable: Was a toxicology screen done on the birthing person (either during this pregnancy or at the time of delivery)?	Moved from PHER form Q9 to PCRF Birthing Person History section with no change in question meaning, but changes in question wording and response options. Changed the question wording	To consolidate data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.

	<p>to state "birthing person" instead of "mother." Updated response options to include results for three additional substances (fentanyl, K2, and PCP). Removed "Toxicology screening not documented" response option. Added "Unknown" response option. Revised question wording and collection of response options to collect information about each specific substance included in the toxicology screening and whether the result of the screening was "Positive," "Negative," "Unknown," or "Not screened" for each substance. Added field to collect date screened for each substance. Added instruction to clarify how to complete the form if the same substance is screened for more than one time.</p>	
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Variables on PHER Form No Longer Collected

Section, Variable	Change Proposed	Reason for Change Proposed
Section VII (PCRF): Patient History, Variable: Was the biological mother counseled about HIV testing during this pregnancy, labor, or delivery?	No longer collect.	To reduce burden given implementation of routine opt-out testing without requirements for counseling in the majority of jurisdictions.
Section XII (PCRF): Treatment/Services Referrals, Variable: Was this child breastfed?	No longer collect.	Important to differentiate whether breastfeeding was by the birthing person or a non-birthing person. New fields proposed to add to the Patient History section to collect information about breastfeeding by birthing person and non-birthing person.
Section (PHER): Comments, Variable: Comments	No longer collect.	Existing Comments section on the PCF can be used to collect the information.
Section (PHER): Q1, Variable: If information on the mother is not	No longer collect.	Existing field "This child's primary caretaker is" in the PCRF

available, was the child adopted, or in foster care?		Treatment/Services Referrals section with no changes to the existing question or response option can be used to collect similar information.
Section (PHER): Q2, Variable: Records abstracted	No longer collect.	Existing field "Document Source" in the PCRF Health Department Use only section with no changes can be used to collect similar information.
Section (PHER): Q7, Variable: Complete the chart for all siblings. (DOB, age, HIV serostatus)	No longer collect.	Information can be collected by completing separate PCRFs for each sibling and linking with the birthing person's record.
Section (PHER): Q11, Variable: Was the mother's HIV serostatus noted in her prenatal care medical records?	No longer collect.	Field "Birthing person's 's HIV infection status" in the PCRF Patient History section can be used to collect similar information.
Section (PHER): Q13, Variable: Was mother's HIV serostatus noted in her labor and delivery records?	No longer collect.	Field "Birthing person's 's HIV infection status" in the PCRF Patient History section can be used to collect similar information.
Section (PHER): Q15, Variable: Was mother referred to HIV care after delivery?	No longer collect.	Information about referrals to medical care are not well documented. Existing fields in the Laboratory Data section of the birthing person's ACRF can be used to assess receipt of HIV care after delivery.
Section (PHER): Q16, Variable: First CD4 or first viral load after discharge	No longer collect.	Existing fields in the Laboratory Data section of the birthing person's ACRF can be used to collect this information.
Section (PHER): Q19, Variable: Was mother's HIV serostatus noted on the child's birth record?	No longer collect.	Field "Birthing person's 's HIV infection status" in the PCRF Patient History section can be used to collect similar information.

Section (PHER): Q20a, Variable: If no antiretroviral drug as prescribed, indicate reason.	No longer collect.	To reduce data collection burden while consolidating data collection into a single form for persons <13 years at time of HIV perinatal exposure or HIV diagnosis.
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New Variables to Collect

Section, Variable	Change Proposed	Reason for Change Proposed
Section VII (PCRF): Patient History, Variable: Child breastfed/chestfed by birthing person	Added new field labeled "Child breastfed/chestfed by birthing person" with response options of "Yes," "No," and "Unknown." Assigned designation of this field for collection as required.	To improve the ability to correctly attribute infection to perinatal transmission when child's infection was determined to occur during breastfeeding by the birthing person.
Section VII (PCRF): Patient History, Variable: Child received premasticated/pre-chewed food from birthing person	Added new field labeled "Child received premasticated/pre-chewed food from birthing person" with response options of "Yes," "No," and "Unknown." Assigned designation of this field for collection as required.	To improve the ability to correctly attribute infection to perinatal transmission when child's infection was determined to occur due to receipt of premasticated/pre-chewed food from the birthing person.
Section VII (PCRF): Patient History, Variable: Child breastfed/chestfed by non-birthing person	Added new field labeled "Child breastfed/chestfed by non-birthing person" with response options of "Yes," "No," and "Unknown." Assigned designation of this field for collection as required.	To improve the ability to correctly attribute infection to non-perinatal transmission when child's infection was determined to occur during breastfeeding by a non-birthing person.
Section VII (PCRF): Patient History, Variable: Child received premasticated/pre-chewed food from non-birthing person	Added new field labeled "Child received premasticated/pre-chewed food from non-birthing person" with response options of "Yes," "No," and "Unknown." Assigned designation of this field for collection as required.	To improve the ability to correctly attribute infection to perinatal transmission when child's infection was determined to occur due to receipt of premasticated/pre-chewed food from the non-birthing person.
Section XI (PCRF): Birthing Person History, Variable:	Added new field labeled "Was a test result (with a specimen collection date within the 6 weeks on or before delivery) documented in the birthing person's labor/delivery record" with response	To identify whether medical providers were aware of recent HIV test results during labor and delivery to make

	options of "Yes," "No," and "Unknown" for both CD4 and Quantitative NAAT (RNA or DNA) test types.	clinical decisions about medical care provided during labor and delivery.
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Other Changes

Section, Variable	Change Proposed	Reason for Change Proposed
Section (PCRF): Form Title, Variable: N/A	Changed title of PCRF form from "Pediatric HIV Confidential Case Report Form (Patients aged <13 years at time of diagnosis)" to "Pediatric HIV Confidential Case Report Form (Patients aged <13 years at time of perinatal exposure or patients aged <13 years at time of diagnosis)."	To reflect that the form should be completed for patients exposed perinatally with or without consequent infection along with patients <13 years at time of HIV diagnosis.
Section N/A (PCRF): N/A, Variable: N/A	Increased number of pages of the hard copy PCRF from 4 pages to 6 pages.	To accommodate new variables being collected and the consolidation of the PHER form (4 pages) and existing PCRF (4 pages).
Section IV (PCRF): Patient Demographics, Variable: Gender Identity	Added variable to the hard copy PCRF.	Current gender identity is already collected in eHARS on the PCRF document. Updated for consistency between hard copy form and eHARS.
Section VII (PCRF): Patient History, Variable: All	Changed references from "biological mother" to "birthing person" for all questions in this section.	To better reflect that information should be collected for the birthing person regardless of gender identity or parental status.
Section IX (PCRF): Laboratory Data, Variable: Is earliest evidence of diagnosis documented by a physician rather than by laboratory test results?	Updated label from "If laboratory tests were not documented, is patient confirmed by a physician as" to "Is earliest evidence of diagnosis documented by a physician rather than by laboratory test results?"	To clarify instructions for when this field should be completed.
Section IX (PCRF): Laboratory Data, Variable: Date of diagnosis by physician	Update label from "Date of diagnosis" to "Date of diagnosis by physician" for both fields collected associated with "If laboratory tests were not documented, is patient confirmed by a physician as."	To clarify which date should be used to complete the fields.

Section X (PCRF): Birth History, Variable: N/A	Changed instruction associated with section title from "Birth History (for Perinatal Cases only)" to "Birth History (for patients exposed perinatally with or without consequent infection)."	To clarify instructions for when this section of the form should be completed.
Section X (PCRF): Birth History, Variable: Delivery	Revised response options. Added new response option " Cesarean," removed the numbers from the start of the other remaining response options, and removed response options "2-2-Elective Cesarean," "3-Nonelective Cesarean" and "4-Cesarean, unknown type." Updated designation of this field for collection from optional to required.	To align with current medical practice; cesareans are not an elective procedure. Updated designation to align with the current designation that the indicators for Cesarean delivery is required.
Section X (PCRF): Birth History, Variable: Congenital Disorders	Revised label from "Birth Defects" to "Congenital Disorders." Updated from "If yes, specify types" to "If YES, specify types."	To align with current preferred terminology and improve consistency of capitalization for "if yes" questions.
Section XI: Birthing Person History, Variable: N/A	Added a new section to PCRF with title "Birthing Person History (for patients exposed perinatally with or without consequent infection)."	To limit the length of the Birth History section.
Section XI (PCRF): Birthing Person History, Variable: Birthing Person Date of Birth, Birthing Person Last Name Soundex, Birthing Person Country of Birth, Other Birthing Person ID (specify type of ID and ID number), Prenatal Care—Total Number of Prenatal Care Visits, Did birthing person receive any antiretrovirals (ARVs) prior to this pregnancy?	Moved from Birth History section to newly created Birthing Person History section with change to question wording and no change to the response options. As applicable, changed wording from "Maternal" to "Birthing Person." Updated label for variable to collect the birthing person's date of birth from "DOB" to "Date of Birth."	To limit the length of the Birth History section. To better reflect that information should be collected for the birthing person regardless of gender identity or parental status.

Table 2. eHARS Only Changes

Description	Change Proposed	Reason for Change Proposed
ID Type	<p>Added additional types of patient identifiers from other data collection systems that can be entered or imported into eHARS:</p> <ul style="list-style-type: none"> EvalWeb Client ID EvalWeb Form ID EvalWeb Partner Services Case Number Integrated Disease Surveillance System Person ID Integrated Disease Surveillance System Event ID <p>No changes to the hard copy form.</p>	To improve linkages with other data collection systems.
Person View Hierarchy	<p>Created a person view hierarchy associated with the variables under the heading “Acute HIV Infection” on the Clinical tab.</p>	To summarize information associated with suspected acute HIV infection.

Table 3. SER Changes

Form, Page, Section, Question/Field	Change Proposed	Reason for Change Proposed
SER Form Pages 1-9	All evaluation periods are updated to reflect the 2023 report.	To ensure that jurisdictions are reporting on the correct evaluation periods.
SER Form Pages 2-9	<p>Minor edits in wording were made throughout for consistency and clarity.</p> <p>Examples:</p> <p>Introduction</p> <ul style="list-style-type: none"> - Moved key personnel names to table format for improved formatting <p>Part F. Submission of Required Outcome Standards with SAS Tables</p> <ul style="list-style-type: none"> - Corrected the jurisdictions listed in the EHE footnote to include only the jurisdictions expected to report on the EHE indicators. 	These minor edits were made to make the document more consistent and accurate in its language. These changes do not impact the meaning of any questions.
SER Form Page 1	Added a field to capture email addresses of contacts.	Previously we captured the names of the primary surveillance contact, the secondary surveillance contact, and the Overall Responsible Party. We are now going to capture the email addresses for these contacts as well, so we have up to date information on these key staff members.
SER Form Page 2. Section B. Laboratory, Question 2	Updated the timeframe:	In the 2022 SER, jurisdictions were asked if they had completed an assessment up until that point in the NOFO. Now that we have

	<p>2. Since 2018, In 2022 did your surveillance program conduct an assessment on laboratories that conduct HIV-related testing for persons who reside in your jurisdiction? This assessment is to maintain documentation, such as types of tests performed and LOINC usage, by all laboratories that report to your jurisdiction.</p> <p><input type="checkbox"/> Yes • What year(s)? Click here to enter text.</p> <p><input type="checkbox"/> No</p>	that information, we only need to ask if an assessment was done in the most recent year, i.e., 2022, in the 2023 SER.									
SER Form Page 2. Section B. Laboratory, Question 3	<p>Edited the follow up questions to Question 3 to capture time frame:</p> <p>3. Are you aware of any laboratory reporting lapses of HIV-related test results for persons who reside within your jurisdiction that resulted in missing laboratory data in your December 2022 data transfer? Please include lapses in laboratory reporting to CDC, including those attributed to the laboratory not reporting test results or because the HL7 reader/transmitter in the health department did not send the results to HIV surveillance.</p> <p><input type="checkbox"/> Yes</p> <table border="1"> <thead> <tr> <th>Year of specimen collection</th> <th>Approximately what percentage of your total jurisdiction's laboratory volume is missing for the calendar year indicated?</th> <th>Approximately what percentage of your total jurisdiction's CD4 results (< 200 and ≥ 200) and viral load results (detectable and undetectable) are missing for the calendar year indicated?</th> </tr> </thead> <tbody> <tr> <td>2022*</td> <td></td> <td></td> </tr> <tr> <td>2021</td> <td></td> <td></td> </tr> </tbody> </table> <p>*At a minimum, lab results through September 2022</p> <ul style="list-style-type: none"> • Approximately what percentage of your total jurisdiction's laboratory volume is missing because of this? • Approximately what percentage of all CD4 results (< 200 and ≥ 200) and all viral load results (detectable and undetectable) are missing because of this? Click here to enter text. <p><input type="checkbox"/> No</p> <ul style="list-style-type: none"> • In 2022, did your program monitor the quality of incoming reports of laboratory test results (including test result volumes) on a quarterly basis or more frequently? <input type="checkbox"/> Yes <input type="checkbox"/> No 	Year of specimen collection	Approximately what percentage of your total jurisdiction's laboratory volume is missing for the calendar year indicated?	Approximately what percentage of your total jurisdiction's CD4 results (< 200 and ≥ 200) and viral load results (detectable and undetectable) are missing for the calendar year indicated?	2022*			2021			Question 3 was edited in order to capture what year a reporting lapse occurred in. This is important for determining which years a jurisdiction did not have complete laboratory reporting.
Year of specimen collection	Approximately what percentage of your total jurisdiction's laboratory volume is missing for the calendar year indicated?	Approximately what percentage of your total jurisdiction's CD4 results (< 200 and ≥ 200) and viral load results (detectable and undetectable) are missing for the calendar year indicated?									
2022*											
2021											
SER Form Page 2. Section B. Laboratory, Question 4	<p>Deleted question 4:</p> <p>4. By December 2021, did your surveillance program transfer to CDC via eHARS all CD4 (<200 and ≥200) and viral load (detectable and</p>	Question 4 is no longer needed to determine laboratory reporting completeness. Question 3 is sufficient.									

	<p>undetectable) test results from laboratory reports received from 2019–2021?</p> <table border="1"> <thead> <tr> <th rowspan="2">Year reports were received</th><th colspan="3">CD4 (<200 and ≥200)</th><th colspan="3">Viral load test</th></tr> <tr> <th>Yes</th><th>No</th><th>Describe type of CD4 results received</th><th>Yes</th><th>No</th><th>Describe type of viral load results received</th></tr> </thead> <tbody> <tr> <td>2019</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr> <td>2020</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr> <td>2021*</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> </tbody> </table> <p>*At a minimum, reports received from January 2021 through September 2021</p>	Year reports were received	CD4 (<200 and ≥200)			Viral load test			Yes	No	Describe type of CD4 results received	Yes	No	Describe type of viral load results received	2019	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		2020	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		2021*	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
Year reports were received	CD4 (<200 and ≥200)			Viral load test																																
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2019	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>																															
2020	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>																															
2021*	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>																															
SER Form Page 4. Section E. Cluster Detection and Response, Question 1	<p>The following question was deleted:</p> <p>Did your program submit a final written plan for establishing and maintaining capacity for cluster and outbreak detection and response according to the guidance in Detecting and Responding to HIV Transmission Clusters: A Guide for Health Departments by July 15, 2021?</p>	This question on sumitting a final cluster and outbreak detection and response plan is not relevant in the 2023 SER.																																		
SER Form Page 4. Section E. Cluster Detection and Response, Follow-up questions	<p>The follow up questions on Cluster and Detection Response was deleted.</p> <p>If you did not meet the standards in 1–3 above, please discuss each unmet standard:</p> <p>a. Why you did not meet the minimum standard for cluster detection and response in 2021.</p> <p>b. Your plan to ensure your program meets this standard in 2022.</p>	This information is no longer needed to be captured in the SER. It will be captured in the End of Year report (EOYR), which is where information on all other standards that were not met is currently collected.																																		
SER Form Pages 4-5. Section F. Submission of Required Outcome Standards with SAS Tables	<p>Deleted yes/no question for whether each output report was attached.</p> <p>Deleted the portion of the outcome measure table that required data entry and instead just listed outcome measures for reference.</p> <p>One table was added, “Outcome indicator summary”.</p> <p>Moved to Section C. Perinatal:</p> <p>Provide percentage of perinatally HIV exposed infants born in 2020 who have HIV infection status determined by 18 months of age (Standard: 85%):</p> <p>Wording of timeliness of laboratory reporting indicator was updated:</p>	All the outcome measures are included in the output reports that are submitted with the SER, so they do not need be entered into the form. The one indicator that was in the outcome table that is not included in any of the output reports (perinatal HIV exposure reporting) was moved to Section C. Perinatal. The language in the timeliness of laboratory reporting indicator was updated to more accurately reflect how the indicator is being measured.																																		

	Of all laboratory test results <u>entered into eHARS</u> with a specimen collection date during 2021 for persons with HIV infection diagnosed during 2021, at least 85% were entered into eHARS within 60 days of the specimen collection date, assessed December 2022	
SER Form Page 6. Section F. Submission of Required Outcome Standards with SAS Tables	<p>Deleted the following question:</p> <p>If you did not meet the Previous Negative HIV Test or Viral Suppression for Cluster Members standard above, please discuss:</p> <p>a. Why you did not meet the minimum standard in 2022.</p> <p>b. Your plan to ensure your program meets the standard in 2023.</p>	This information is no longer needed to be captured in the SER. It will be captured in the EOYR, which is where information on all other standards that were not met is currently collected.
SER Form Page 10. Section I. Security and Confidentiality, Question 6	<p>Added a 'Not Applicable' response option and clarified that the question refers to data sharing with the Medical Monitoring Project.</p> <p>Did your program implement practices that support secure sharing and use of HIV data across necessary programs within the health department, including <u>for collaboration with</u> the Medical Monitoring Project (MMP) (if applicable)?</p> <p><input type="checkbox"/> Not applicable</p>	Clarified that the question refers to data sharing with MMP, which is only application to sites funded for MMP, so a 'Not applicable' response option was added.